

**MONITORING, VERIFICATION AND EVALUATION UNIT
AGRICULTURAL POLICY REFORM PROGRAM**

**MVE UNIT
APRP**

Sponsored by:

**Government of Egypt,
Ministry of Agriculture and Land Reclamation**

**United States Agency for International Development/Egypt
Office of Economic Growth, Competitiveness and Agricultural
Development Division**

**THE
IMPORTANCE
OF
AGRICULTURAL
GROWTH TO
SME
DEVELOPMENT
AND RURAL
EMPLOYMENT
IN EGYPT**



Abt Associates Inc.

Sarah Gavian
Abt Associates

Tamer El-Meehy
Lamia Bulbul
EQI

Gary Ender
Abt Associates

Prime Contractor:
Abt Associates Inc.

Subcontractors:
**Environmental Quality International,
Management Systems International**

USAID Contract No. 263-0219-C-00-7003-00

July, 2002

Project Office: 15th Floor, 7 Nadi El Seid Street, Dokki, Cairo
Telephones: (202) 337-0357, 337-0592, 337-0378
Fax: (202) 336-2009

Special Study No.
5

TABLE OF CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	iv
ACRONYMS AND DEFINITIONS	v
ACKNOWLEDGMENTS	vi
EXECUTIVE SUMMARY	vii
1. INTRODUCTION	1
2. LITERATURE REVIEW AND SECTOR FRAMEWORK	3
2.1 The Fundamental Role of the Agricultural Sector	3
2.2 Attenuating Circumstances	4
2.2.1 Household Consumption Patterns	4
2.1.2 The Impact of Increased Nonagricultural Activity on Poverty	5
2.3 The Egyptian Context	6
2.4 Small and Micro Enterprises in Egypt	10
2.4.1 Capital	12
2.4.2 Marketing Channels	12
2.4.3 Informal Enterprises	13
2.4.4 Location	13
2.4.5 Growth, Labor and Job Creation	13
2.5 Sectoral Framework	15
2.6 Hypotheses	16
3. METHODOLOGY	18
3.1 The Sampling Frames	18
3.1.1 Selecting the Survey Areas	19
3.1.2 The Governorate Level	19
3.1.3 The District Level	20
3.1.4 The Local Unit and Village Levels	20
3.2 Setting the Sample Sizes	20
3.3 Weighting the Sample	21
3.4 Survey Logistics	21
4. RURAL JOBS, INCOMES AND SPENDING	23
4.1 Rural Jobs and Incomes	23
4.1.1 Jobs	24
4.1.2 Incomes	25

4.2 Household Spending	27
4.2.2 What Households Buy	28
4.2.2 Where Households Shop	29
4.3 Linking Agricultural and SME Demand	31
4.4 Summary	32
5. CHARACTERISTICS OF SMES	34
5.1 SME Types, Prevalence and Ownership	34
5.2 SME Labor	36
5.3 SME Inputs	36
5.4 SME Customers	38
5.4.1 Farmer Customers	39
5.4.2 Methods of Selling	40
5.5 Economic Activities of SMEs	41
5.6 Summary	43
6. GROWTH PATTERNS AND DYNAMICS	45
6.1 SME Capital	45
6.1.1 SME Capital by Rural/Urban Location	45
6.1.2 SME Capital by Sector	47
6.2 Labor Force Dynamics	48
6.2.1 Actual Increases in SME Labor	48
6.2.2 Anticipated Responses to Increased Demand	50
6.3 Factors Influencing Job Creation	51
6.3.1 Underemployment	51
6.3.2 Capital/Labor Ratios	51
6.3.3 Constraints to SME Expansion	53
6.3.4 Economic Cycles	55
6.4 Summary	55
7. CONCLUSIONS	57
7.1 Job Creation	57
7.2 Policy Implications	58
REFERENCES	60
APPENDICES	66

LIST OF TABLES

Table 1: Private NonAgricultural Enterprises in Egypt by Size	10
Table 2: Marketing Patterns for Micro and Household Enterprises	12
Table 3: The Framework for the Sectors	15
Table 4: Household Demographics	24
Table 5: Employment by Sector: Hours, Jobs, Full-Time Equivalents	25
Table 6: Total Household Incomes: Earned, Unearned and Home Produced	26
Table 7: Household Food Expenditures: Rural versus Urban	29
Table 8: Household Purchases by Location and Sector: Rural versus Urban	30
Table 9: Origin and Disposal of Income by Sector	32
Table 10: SME Characteristics	34
Table 11: SME Labor Force Characteristics by Location	37
Table 12: Origin of Inputs by Location	38
Table 13: Customer Base by Location	40
Table 14: The Importance of Farmers to the SME Customer Base	41
Table 15: Proportion of Goods Withdrawn for Family Use by Location	41
Table 16: Characteristics of SMEs by Sector of Activity	42
Table 17: SMEs Adding Capital Since Establishment, by Location	46
Table 18: Initial, Additional and Total SME Capital for SMEs by Location	47
Table 19: Initial, Additional and Total SME Capital by Sector	48
Table 20: Response to Increased Demand by Location and Sector	51
Table 21: Underemployment in E-SMEs by Location and Sector	51
Table 22: Top Constraint for E-SMEs by Location and Sector	54
Table 23: Top Constraint for HBEs by Location and Sectors	54

LIST OF FIGURES

Figure 1: Poverty by Region of Egypt (Head Count Index)	8
Figure 2: Shares of Income by Sector (Richard Adams)	9
Figure 3: Total Income by Sector	27
Figure 4: Rural Household Expenditures by Category	28
Figure 5: Components of Food Expenditures for Rural Households by Sector	31
Figure 6: Allocation of Rural SME Labor among Established Owners, HBE Owners and SME Laborers	35
Figure 7: Education of Regular Workers (E-SMEs) by Location (%)	37
Figure 8: Origin of Workers by Location (%)	39
Figure 9: Education of E-SME Regular Workers by Sector (%)	43
Figure 10: Initial and Additional SME Capital by Location	46
Figure 11: Labor Dynamics by Location (E-SMEs)	49
Figure 12: Labor Dynamics by Sector (E-SMEs)	50
Figure 13: Capital/Labor Ratio by Location	52
Figure 14: Capital/Labor Ratio by Sector	53

ACRONYMS AND DEFINITIONS

CAPMAS	Central Agency for Public Mobilisation and Statistics
E-SME	Established SME (an SME operating from a fixed place of establishment outside the home).
HBE	Home-based enterprise (an SME operating from within the home rather than in an outside establishment).
HIECS	Household Income and Expenditure Consumption Survey (of CAPMAS)
Farmer	Technically, someone who derives the majority of his or her income from agricultural activities. For the purposes of the survey, farmer was translated as the Arabic word <i>fellah</i> , and is used in general parlance to refer to residents of rural areas.
LU	Local Unit
LE	Egyptian Pound
<i>Markaz</i>	District (the third administrative level in Egypt)
SME	Small and micro enterprise (15 workers or less)
USAID	United States Agency for International Development

ACKNOWLEDGMENTS

A large team of people contributed to this work. The motivation for the study was offered by Dr. John Mellor, who firmly believes that even in Egypt, with one of world's largest deserts, agricultural growth can – and someday will – have a profound effect on reducing poverty.

The challenges of carrying out and analyzing more than 1,800 interviews in such a short time period are formidable. The authors are profoundly grateful for the long nights and sincere efforts devoted by the large team of field enumerators, research staff, computer programmers and production assistants associated with this work. All efforts were essential, but some deserve special mention. Without the diligent efforts of EQI researchers Ms. Neamat Guenena and Ms. Abeer Abbas in designing questionnaires, training field staff, and organizing field logistics, the data underlying this analysis would be nothing more than errant electronic bytes. Their efforts were reinforced under arduous field conditions by the hard work and good cheer offered by EQI staff Ms. Maysa Ayoub, Mr. Shukri Hussien and Ms. Negah El-Bassoussi. We are grateful to Dr. Heba El-Laithy of the University of Cairo for laying the statistical underpinnings of the sampling, weighting and results analysis. We are also indebted to Mr. Mohamed El-Aref and Miss Doaa Mohie of EQI as well as Ms. Mona Steffen and Mr. Douglas Fuller of Abt Associates who wrestled late into many evenings with unforgiving computer programs to turn mountains of numbers into analyses and graphics.

The study is funded by USAID/Egypt, Competitiveness and Agricultural Development Division in the Office of Economic Growth under the guidance of USAID project officer Dr. Mohamed Omran. Over several years, he has supported the development of the ideas expressed in this as well as companion pieces.

Despite the substantial contributions by many colleagues, the information, interpretation and opinions expressed in this report are the sole responsibility of the authors and not those of USAID, and we accept responsibility for any errors or misinterpretations.

EXECUTIVE SUMMARY

Agricultural growth can be a major driver of poverty reduction in developing countries. Agriculture tends to be a large sector, the income from which is primarily spent on domestically produced goods and services. To the extent that those goods and services are produced using a high degree of labor, agricultural growth creates many jobs. Usually these jobs are created in nearby small enterprises that often employ the poorer, less educated portions of the society. Thus improving agricultural incomes not only improves the welfare of agricultural households and increases the food supply, but also has the very important impact of stimulating pro-poor, non-farm employment in rural areas.

Of course, other kinds of growth also create jobs. The issue is, how many jobs, for whom, and where? The link between growth and job creation thus depends on what types of goods are demanded, who produces them, using what resources, and facing what constraints? To address these issues, this report uses survey data from three governorates of Egypt (Assiut, Beheira, and Sharqeya) to test hypotheses related to 1) the importance of agricultural incomes in generating demand for non-agricultural goods and services in rural areas, 2) the tight links between the small businesses that make up the non-agricultural sector in rural areas and the surrounding community from which they draw their demand, labor force and input supply, and 3) the responsiveness of the small enterprises to increased demand, particularly in terms of job creation. Based on three different surveys of more than 1,200 small and micro enterprises (SMEs) and 600 households, the results provide estimates of total employment, household incomes and household expenditures for each of the sectors in rural areas of Upper and Lower Egypt. They also provide profiles of the different kinds of SMEs found in rural Egypt.

Rural Employment, Incomes and Spending

The household survey, carried out in February 2002, consisted of a sample of 600 households in rural (440 households) and urban (160 households) areas of Upper and Lower Egypt. Households were randomly selected from a complete listing of all residential units. Survey questions focused on how households earned their income and where they spent it. Households were asked to identify their sector of employment and expenditures in terms of agriculture, private non-agriculture (small versus medium and large enterprises) and government.

Agriculture is a large but slow-growing portion of the Egyptian economy. According to Adams, who uses IFPRI data from the 1997 Egypt Integrated Household Survey, agriculture (crop and livestock production) accounts for 32 percent of all income nationally, with the poor receiving as much as 41 percent of their income from agricultural activities. According to CAPMAS data from the Labor Force Sample Survey of 1998, the agricultural sector accounts for 29 percent of all employees nationally. In rural areas, as many as 48 percent of all employees work in the agricultural sector, whereas that share is only 5 percent in urban areas. Using CAPMAS national accounts data, agricultural value-added constituted 17 percent of gross domestic product in 1998/99.

The survey results suggest that the agricultural sector provides a modest amount of income (23 percent) to rural households. However, those households, in turn, do buy a very large proportion of their goods and services from SMEs, indeed most of them from rural SMEs. Taking income

and expenditures together, 19 percent of all demand generated in rural areas is represented by the link between agricultural incomes and rural SMEs. This is modestly behind the 24 percent share from the government-to-rural SME link and on a par with the 19-percent share from the SME-to-rural SME link. Thus the hypothesis that rural households rely on agricultural incomes and spend on small local businesses was supported, but the links were somewhat weaker than expected. A related hypothesis that urban households are less dependent on agriculture for their incomes and less likely to spend in local small businesses was strongly supported.

Defining, Identifying and Profiling SMEs

As the private non-agricultural sector in rural areas comprises primarily small (5-14 workers) and micro enterprises (1 to 4 workers), a second set of surveys was designed to determine their characteristics and potential for job creation. In order to capture all SMEs in operation, a distinction was made between established small and micro enterprises (E-SMEs) and home-based enterprises (HBEs), where the latter lack fixed independent premises. Because HBEs are fairly invisible (being located within homes and seldom registered with government), there were separate sampling strategies and questionnaires for the two different kinds of SMEs. The fieldwork for the established SME survey was carried out from March through May 2001 and targeted enterprises using official lists. The HBE survey was carried out in February 2002 and targeted enterprises identified within the households selected for the household survey. In all cases the sampling was random, and the surveys were carried out in the same locations as the household survey.

The effort to identify and sample HBEs uncovered a second universe of small and micro enterprises sometimes missed by other studies and every bit as common as their established counterparts in both rural and urban areas. In many ways, these HBEs have a different profile from their established counterparts. While SMEs as a class tend to be very small, rural HBEs are even smaller than E-SMEs (1.2 versus 2.0 workers). They are likely to be operated by one person (owner/worker), and twice as likely to be female-headed as their E-SME counterparts. Most sell their products from home, followed by the marketplace, and street vending. Their client base is overwhelming local, although more so for rural HBEs than urban ones. In rural areas (where there are agricultural activities), 54 percent of the respondents said that farmers make up most or all of HBE clients, as compared with the much greater importance (80 percent) of farmers for rural E-SMEs. Rural HBEs are more likely to use enterprise outputs for family consumption than their urban counterparts.

The prototypical E-SME is likely to be engaged in trading and employing about two regular workers: one a relative around 23 years old with an intermediate degree, and the other, around 45 and at best semi-literate. Rural E-SMEs are very dependent on their village for their markets (91% local versus 8% from a city or metropolitan area), whereas urban E-SMEs are more dependent on their city, although to a lesser extent (63% local). Although farmers are only a minor slice of the urban clientele, they are a very major part of the client base for rural E-SMEs.

SMEs also differ by sector of economic activity. For example, trade is the largest sector in terms of the number of enterprises. One explanation is the relatively low capitalization required, hence the ease of market entry. On the other hand, SMEs engaged in services are the largest in terms of both labor and capital.

SMEs exhibit a high degree of self-containment in the local economy in terms of customers, input and labor. The findings therefore support the second hypothesis that SMEs constitute a large sector that is highly dependent on the local economy for their demand, labor and other inputs. The implication is that changes in demand for SME products will be felt first and foremost in the local community. Thus it is possible for an increase in agricultural incomes to have a substantial impact on demand for local SME products and for the SMEs, in response, to demand more labor and other inputs from the local economy.

Growth Patterns and Dynamics

Having established that local communities are the major source of demand for the large SME sector in Egypt and that this relationship is even stronger in rural areas than in urban ones and that agricultural incomes make up a substantial portion (although not the majority) of that local demand for SME output in rural but not urban areas, the focus turns to how SMEs respond to an increase in demand.

Demand was hypothesized to be the major constraint to SME expansion, and SMEs were hypothesized to be ready to respond to an increase in demand. SMEs were also presumed to be labor-intensive, and thus respond to increased demand by hiring local labor. Rural SMEs were hypothesized to be more employment-intensive (i.e., use a greater proportion of labor to capital) than urban ones and thus more likely to add jobs when demand increases.

The results suggest that these effects may not be as strong as predicted, at least in the short to medium run. While the majority of both E-SME and HBE owners report the shortage of demand to be their most binding constraint, SMEs are not that ready to respond to an increase in demand by adding workers. Most SMEs have significant excess labor capacity and almost none employ seasonal labor. Most SME owners say they respond to demand increases by working harder and extending hours. Only 8 % of rural SMEs said they would add workers versus 23 percent of urban SMEs. The majority of E-SMEs (the only group for which the data were collected) had no change in employment throughout their business lives. However, for the quarter to third of E-SMEs that did add workers, the addition represented a near doubling of their labor force. Thus there is some evidence that SMEs can expand, given sufficient demand, and that the urban SMEs are more likely to expand than the rural ones.

The link between job creation and labor intensity is complex. On balance, rural E-SMEs are far more labor-intensive than urban ones. However, rural HBEs are actually less labor-intensive than their urban counterparts. Furthermore, rural E-SMEs, despite their being more labor-intensive, are less likely to add labor (or capital) over their lifetime than urban E-SMEs. Likewise, the SME service sector had the largest workforce expansion, while paradoxically being the sector with the lowest labor intensity. It also is the most capitalized (in terms of both initial and total capital), the largest in size (in terms of the average number of workers per enterprise), and the least likely to suffer from underemployment and demand constraints. One implication is that to the extent that SME jobs are created through enterprise expansion, they are more likely to be created in urban areas. The majority of SME-generated jobs are mainly generated through start-ups, the study of which was beyond the scope of this research. Nevertheless, lengthening hours and working harder will translate into greater incomes, and eventually, if demand is maintained, to more positions. In either case, incomes increase.

Conclusions

SMEs are traditionally thought of as well poised to respond to increased demand by creating jobs. Their base employment is very large, they are highly labor-intensive, and they depend on their localities for labor and other inputs. Furthermore, they have low capital requirements and offer some opportunities for female employment and entrepreneurship. However, the potential for rural SMEs to generate employment through expansion must be qualified.

First, SMEs are not a homogeneous sector. Second, high labor intensity is not synonymous with the ability to generate employment through expansion. To the contrary, the group of SMEs that had the highest ability to generate employment was the least labor-intensive, and had the highest average annual capital growth rate. Third, again, when it comes to the ability to generate labor by expansion, urban enterprises fared better than rural ones. Fourth, the services sector, which had the highest ability to generate employment (and also the highest average annual growth rate in capital), was the least likely to suffer from demand constraints.

This, if anything, points to the importance of demand and economic growth for job creation. Continuing to provide supply side solutions to SME problems—though admittedly needed—without expanding the market for their products and services is highly unlikely to generate employment through expansion. Suffering from high underemployment rates—primarily due to the lack of sufficient demand to keep them fully employed—these enterprises will not generate additional jobs, except after their capacity has been fully utilized. In the meantime, however, increased demand will cause SME owners to work harder and earn more income. Extending hours either for the owners or workers should not only increase their income, but if widespread, should push up wages in the rural economy. Furthermore, while the study did not monitor job creation by start-ups, the results indicated that about one-third of all SMEs did expand their labor force, and a roughly similar proportion invested additional capital. Thus the study results suggest that SMEs are indeed a potential motor for job creation.

The issue then remains: how to prime that motor? What is needed to stimulate demand for SME goods and services in rural areas where poverty is greatest? The results indicate that the size of the agricultural sector, even in rural areas, may be fairly small relative to the non-agricultural (i.e., SME) and government sectors. But neither of these latter sources of income is robust. Where does the SME income come from in the first place? As long as there is something outside the SME sector growing, then the SME-to-SME link gets activated. That growth must come either from government, large businesses or agriculture. As Egypt continues macroeconomic reforms, government employment should diminish sharply, eroding its direct and indirect impact on demand for SME products. The private sector role in the economy must expand. The role of the medium and large enterprises in generating employment will be fairly minor because at present, such businesses are only a small piece of the economy. Thus the growth of agricultural incomes and demand will be critical to filling the void and creating new jobs.

1. INTRODUCTION

Agricultural growth can be a major driver of poverty reduction in developing countries. Agriculture tends to be a large sector, which primarily spends its income on domestically produced goods and services. To the extent that those good and services are produced using a high degree of labor, agricultural growth creates jobs. Usually these jobs are created in nearby small enterprises that often employ the poorer, less educated portions of the society. Thus improving agricultural incomes not only improves the welfare of agricultural households and increases food supply, but also has the very important impact of stimulating pro-poor non-farm employment in rural areas.

In their paper *The Determinants of Employment Growth in Egypt: The Dominant Role of Agriculture and the Rural Small-Scale Sector*, Mellor and Gavian estimated the potential for agricultural growth to stimulate jobs in the Egyptian economy (1999). In *The Impact Of Agricultural Growth On Employment In Egypt: A Three-Sector Model*, Mellor and Ranade (2002) further developed those concepts into a model of the Egyptian economy designed to highlight the interplay between the rural and urban tradables and non-tradables sectors of the economy (considering agricultural goods as rural tradables). That analysis showed that a balance strategy of strong growth in each of these sectors (on the order of 5.6 percent per annum) can create about 1 million jobs in the Egyptian economy, predominantly in rural areas.¹

Of course, other kinds of growth also create jobs. The issue is, how many jobs, for whom, and where? The link between growth and job creation thus depends on what types of goods are demanded, who produces them, using what resources, and facing what constraint? As a companion piece to Mellor and Ranade (2002), this study seeks to determine 1) incomes and sectoral spending patterns for rural households, 2) the size of the current labor force disaggregated by economic sector (with a particular focus on small rural enterprises), and 3) the potential for the major recipient of household spending, small and micro enterprises (SMEs), to create jobs. Linking those attributes together in the Egyptian context provides a perspective on the degree to which agricultural demand can drive employment gains in rural areas. The results are intended to add breadth to the related Mellor and Ranade analysis (2002).

The objective of the current study is therefore to test a series of hypotheses related to 1) the importance of agricultural incomes in generating demand for non- agricultural goods and services in rural areas, 2) the tight links between the small businesses that make up the non-agricultural sector in rural areas and the surrounding community from which they draw their demand, labor force and input supply, and 3) the responsiveness of the small enterprises to increased demand, particularly in terms of job creation. Based on the results of three different surveys of more than 1200 small and micro enterprises and 600 households, we also derive estimates of base employment, household incomes and household expenditures for each of the sectors in rural areas of Upper and Lower Egypt. By actively seeking out the often-invisible class of small and micro enterprises based out of people's homes in rural areas, we are able to describe the 58 percent of these enterprises that are missed by most other studies. The results of these surveys make an important contribution to our understanding of rural dynamics, because

¹ Mellor and Ranade (2002) assume perfect competition, international prices, a ratio of capital between rural tradables (defined in the paper as agriculture) and urban tradables of .0345, and a ratio of all capital to urban tradable capital of 1.0345, an agricultural growth rate of 5.6% year will cause GDP to grow 7.5% per year and add an increment of 1.1 million additional jobs (above the rate of labor force growth).

other studies have not traced household spending or SME customers geographically or by economic sector.

2. LITERATURE REVIEW AND SECTOR FRAMEWORK

As the international community turns its attention to the pressing issues of poverty, studies have focused on the linkages between economic growth, employment and poverty reduction. Economic growth alone cannot solve all the problems associated with poverty and unemployment, but these conditions cannot be eradicated without economic growth (Timmer 1997). Although the analyses use different methods and differ as to the size and timing of the effects, evidence is clear that rapid economic growth causes poverty to decline more quickly than does slow growth. Evidence is more mixed on the matter of relative poverty, usually measured as the income share of the poorest fifth of society. Overall growth causes incomes of the poor to rise proportionately with average incomes (Dollar and Kraay 2001) but their income share can actually fall under certain growth scenarios (Eastwood and Lipton 2001). Pro-poor growth improves not only the absolute incomes of the poor, but also their relative position. Thus the structure of growth is very important to the eradication of poverty.

2.1 The Fundamental Role of the Agricultural Sector

Agriculture must be an essential element of any pro-poor growth strategy. Several studies suggest that growth in the agricultural sector reduces poverty more than growth in the industrial sectors (Timmer 1997, Ravallion 2001, Eastwood and Lipton 2001, Mellor 2001a, Hazell and Haddad 2000, Datt and Ravallion 1998 and 1997, Mellor 1976, Mellor and Lele 1972 and Johnston and Kilby 1975). Thirtle *et al.* performed a cross-section analysis using World Development Indicators data from the World Bank to demonstrate a strong statistical relationship between agricultural productivity and poverty reduction (2001). Depending on the model and data set used, a 10-percent increase in crop yields leads to a reduction in the percentage of people living on less than \$1 per day of between 6 and 12 percent.

While many studies have now linked agricultural growth to employment and poverty reduction, few have tried to capture the specific dynamics at play to identify sub-sector strategies. Such modeling is at an early stage. Using data from Egypt, West Africa, and Rwanda, Mellor has estimated the potential for different agricultural sector strategies to generate jobs (Mellor and Gavian 1999; Mellor 2000 and Mellor 2001b).

In a companion paper to this study, Mellor and Ranade recast the growth linkages in terms of a simplified model of tradable and nontradable sectors in Egypt (2002). They highlight the importance of this distinction between tradable and nontradable goods to the dynamics of growth.² Sustained economic growth requires a sustained demand for Egypt's products. This comes from the sales of Egyptian tradables on international markets. The revenues thus earned then flow through the Egyptian economy, stimulating demand for local nontradable, tradables and imports. Mellor and Ranade agree with Delgado *et al* (1998) that while there are multiplier

² According to 1998 IFPRI study summarizing agricultural growth linkages in Sub-Saharan Africa, tradables are goods that "in theory can always be imported or exported at a constant price determined by a reference market outside the region in question" and nontradables are all goods, that "at prevailing relative prices, are rarely, if ever traded across the borders of the chosen zone of analysis" (Delgado *et al*, 1998, p. 1). Mellor and Ranade treat all agricultural goods and services as tradable while the IFPRI authors classify foods that are bulky (coarse grains) or perishable (e.g., fresh meats) as nontradable.

effects within the nontradable sector (as one earner of incomes from nontradable activities spends on the products of another producer of nontradables), this chain reaction will run its course in due time, depending on leakages such as demand for imports. Both studies suggest that the infusion of new income will most likely come from increases in agricultural productivity leading to decreased prices that make farm products competitive outside the country (or zone). Both studies also stress the importance of this income in jumpstarting local consumer demand, and thus employment, in the nontradable sectors.

Agriculture serves as a main driver of pro-poor growth because:

Agriculture is a large sector in most developing country economies and as such, has an important absolute and relative effect on overall economic growth and job creation. Although tempered somewhat by its tendency to grow more slowly than other sectors and to benefit from labor-saving technologies, changes in this large sector can have a big influence on employment (Mellor and Gavian 1999).

Secondly, rising incomes in agriculture are the dominant source of demand for the labor-intensive small-scale sector in rural and market towns. (Mead and Liedholm 1998, Liedholm and Mead, 1987). Farmers typically have a high marginal propensity to consume domestically produced goods. Furthermore, the host of rural small businesses producing rural housing, furniture, local garments, shoes, baskets, as well as a wide range of personal services has little access to urban or international markets. Training and micro-finance programs aimed at increasing the productivity of small enterprises will only succeed if local markets can absorb the added supply.

Finally, agricultural growth not only generates incomes for farmers and in turn their local goods and service providers, but it generates the additional food needed to meet the consequent growing demand. Because food usually dominates the expenditure basket of the poor, poverty reduction requires that rising incomes be accompanied by a simultaneous increase in the quantity of food. Otherwise the resulting inflation would choke off non-farm growth (Mellor 1976).

2.2 Attenuating Circumstances

The links between agriculture and economic growth, however, differ markedly in their influence depending on the setting. Several studies consider two related issues: first, how agricultural households spend their additional earnings and second, whether that spending reduces poverty and income inequality.

2.2.1 Household Consumption Patterns

Empirical evidence, based on household expenditure surveys, reveals a strong positive relationship between changes in household income and changes in the demand for small-scale industry goods and services. A study of Karnal District in India documented that a five-fold increase in rural incomes from 1977-78 to 1995-96 contributed to an increase in absolute household expenditure on both food and non-food items, with the non-food part of the budget growing from 40 percent to 45 percent over the period (Awudu 1999).

However, there are several reasons why such links may be attenuated. Sometimes the same process of development that helps boost household incomes in rural areas also leads those households to increase their demand for imported products as transportation costs fall. Addressing the question of why agricultural investments in the Muda region of Malaysia did not stimulate much local industry, Hart (1989) notes the facilitating role of infrastructure in both changing demand and allowing cheap non-local supplies to enter the region. She finds in a 1988 village survey that products from Thailand were readily available in local markets arriving via the North-South Highway. Rural electrification had also generated significant demand for several non-local products, with 70 percent of households owning a television and 30 percent, a refrigerator.

Another reason that increases in rural incomes may not lead to increased local demand relates to the specific tastes of those whose incomes increased. If, for example, large landholders capture the increase in agricultural incomes, then their spending may do little to boost the local economy. Such is the case, argue De Janvry and Sadoulet, in Latin America where the unequal land distribution means that a few – and often absent – landowners spend their increased incomes outside the rural area, and then often on luxury items that are imported or produced by urban industries (1993).

2.1.2 The Impact of Increased Nonagricultural Activity on Poverty

The net impact of how increased demand for nonagricultural goods and services will affect poverty depends on how that sector responds to that demand. Does it add jobs or capital or both? How is this influenced by the distinctions between businesses within the sector?

The nonagricultural sector is large and getting larger

Several studies reveal that employment and incomes in the nonagricultural sector of many developing countries are often large and sometimes even larger than in the agricultural sector of rural areas of developing countries (Lanjouw and Feder 2001, Lanjouw and Lanjouw 2000).³ For example, studies in Latin America show that an average of 47 percent of rural household income is non-farm income.⁴ In Africa, a study by Reardon *et al.* (1992) indicates that nonfarm income is on average 42 percent of total rural household income. The study finds that rural nonagricultural income shares have been rising in Africa during the past few decades. In Asia, studies show an average of 32 percent of nonagricultural income in total rural household income (Lanjouw and Feder 2001).

Not only is the nonagricultural sector, even in rural areas, a very big part of the economy, but the same literature indicates that its share has been growing in many regions of the world in recent decades. This is in keeping with the expected structural transformation from an agrarian to an industrial base that accompanies the development process.

³ Lanjouw and Lanjouw classify activities linked with agricultural transformation (e.g., agro-industry, food processing, or furniture making) as nonagricultural (2000).

⁴ This figure is the overall 13 country average. In some countries such as Argentina, Colombia, Panama, and Peru it amounts for 50%. While in other countries such as Chile, Brazil, Ecuador, El Salvador, Honduras, Mexico, and Nicaragua it ranges between 38% and 42% (Lanjouw and Lanjouw 2000).

The nature of rural nonagricultural production

The extent to which demand for nonagricultural goods and services stimulates employment and income growth depends on who owns those businesses and how they respond to the demand. Often the lower-productivity activities are controlled by the poor, while the higher-productivity activities are controlled by the wealthy (Lanjouw and Feder 2001). If demand increases for low-productivity nonagricultural activities, the poor gain. If demand increases for the output of the more productive businesses, there may be less of a direct income effect for the poor; however as rural labor markets tighten, the poor will benefit from job creation and higher wages.

Field evidence suggests the results can go either way. Lanjouw and Feder (2001) cite several studies suggesting that the poor and landless (engaged in low-productivity activities) get a higher percentage of their income from non-farm occupations than those engaged in highly remunerative activities, thus suggesting an equalizing influence to the expansion in this sector (for example, Bagachwa and Stewart 1992, White 1991, and Adams 1999). However, others (Reardon *et al.* 1992, Collier *et al.* 1986 and Matlon 1979) find in various Sub-Saharan African contexts that the gains from increased nonagricultural incomes accrued to the wealthy, with a consequent worsening of rural income distributions.

The wealthier benefited most from earning opportunities outside agriculture (Reardon *et al.* 1992). A recent study of Vietnam found that the worst poverty in rural areas is among households whose income stems solely from off-farm self-employment (van de Walle 2000). Similar findings are reported for Ecuador (Lanjouw 1999), El Salvador (Lanjouw 2001) and Brazil (Ferreira and Lanjouw 2000).

These inconsistent results may depend on the relative returns to agriculture versus nonagricultural activities. If widespread landlessness pushes poorer households into the nonagricultural sector, then activities in that sector are likely to have very low productivity. On the other hand, if rural residents have a choice of farming or not farming, the relative returns should be more equal (Adams 2000). In sum, the wide range of labor productivity in non-agricultural activities suggests that some of these activities provide a last resort, safety-net function, while others offer a genuine opportunity for sustained upward mobility (Lanjouw 1998).

2.3 The Egyptian Context

As an ILO report argues, “data on poverty and income distribution are far less reliable, and estimates on the levels of poverty in Egypt are often at conflict” (ILO, 1997). While the results of the 1995/96 Household Income and Expenditure Survey suggest a drastic increase in the incidence of rural poverty from 32 percent in 1990/1991 to 55 percent in 1995/1996 compared to a rise in urban poverty from 13 to 31 percent during the same period, other studies show different patterns. The 1996 Egypt Human Development Report points to a decrease in rural poverty that compensated for the increase in urban poverty, thus bringing the overall poverty incidence level to 23 percent of the population. This latter estimate, however, uses the lower poverty line (cost of basic needs), as opposed to the higher poverty line; which relies on the actual (not the essential) consumption patterns. Using the higher poverty line, the overall incidence of poverty would rise to 44 percent.

According to the ILO, “evidence suggests that the trend in poverty in Egypt has been worsening” (ILO, 1997). HIES data show a decline of real incomes and expenditures over the 1990/1991 – 1995/1996 period. In addition, according to national statistics, real per capita GDP have also witnessed a decline over roughly the same period from US\$620 to US\$ 528 (1990 US\$). The decline in average real incomes and expenditures implies a decrease of purchasing power and hence an increase in the incidence of poverty to approximately 44% by 1995/1996.

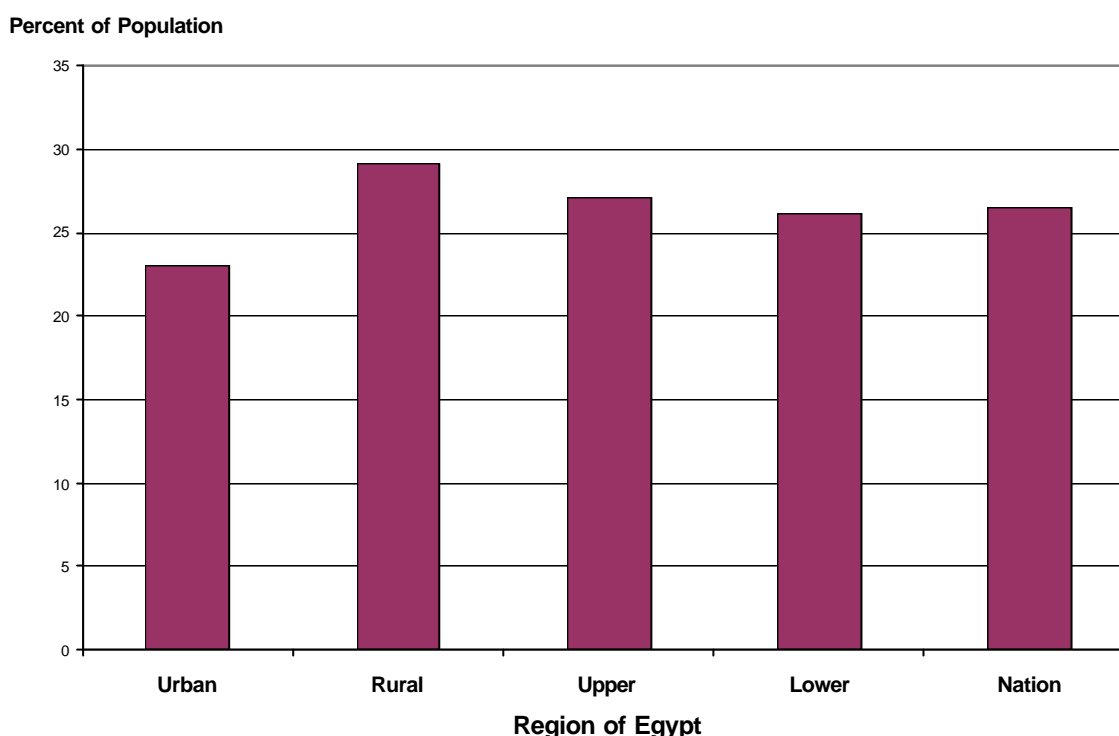
Consistent with this result, IFPRI data suggest that real wages were declining precipitously for several years leading up to and including at least part of this period (Datt and Olmsted 1998). Rural areas lost more employment opportunities than the entire economy during downswings in employment, leading Fergany to refer to the ruralization of unemployment as “the hallmark of employment dynamics in the 90s” (1998a, p. 9).

Studies are mixed as to whether, within the struggling rural sector, agriculturalists are better or worse off than non-agriculturalists. The Poverty Assessment in Egypt: 1991-1996, shows that the poor are concentrated in agricultural activities (39.4 percent of poor working individuals) (El-Laithy *et al.* 1999). A later IFPRI study by Datt *et al.* (1998) found that about 28 percent of rural Egyptians fall below the poverty line (Figure 1), with a considerably lower rate for cultivators (23 percent) than non-cultivators (35 percent). They conclude “that access to land and the opportunities to undertake agricultural cultivation has an important bearing on the well-being of the rural Egyptian household” (1998, p. 64).

Using the same data from the Egypt Integrated Household Survey of 1997, Datt and Jolliffe estimated models showing that increasing education would have a major impact on reducing the national incidence of various measures of poverty used in the study (18 to 25 percent). In addition, improved irrigation was estimated to reduce poverty 6 percent, while reducing unemployment levels is estimated to reduce poverty by two to three percent (Datt and Jolliff, 1998).

How big is the agricultural sector in Egypt? Estimates range, depending on the definitions used. According to Adams using IFPRI data from the 1997 Egypt Integrated Household Survey, the share for agriculture (crop and livestock) accounts for 32 percent of all income nationally (Figure 2, last column), with the poor receiving as much as 41 percent of their income from agricultural activities. According to CAPMAS data from the Labor Force Sample Survey of 1998, the agricultural sector accounts for 29 percent of all employees nationally with a much higher proportion in rural areas (48 percent) than in urban areas (5 percent). Using CAPMAS national accounts data, agricultural value-added constituted 17 percent of gross domestic product in 1998/99 (Statistical Yearbook, June, 2001).

Figure 1: Poverty by Region of Egypt (Head Count Index)



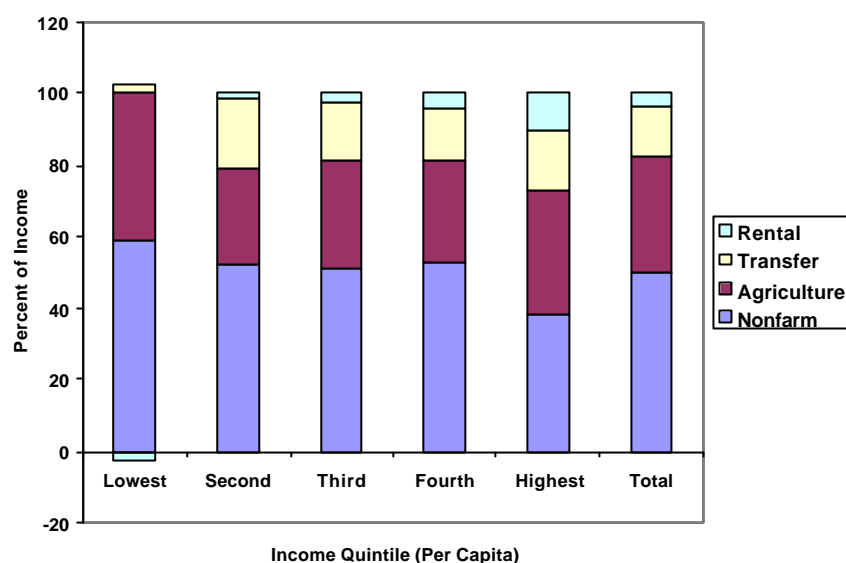
Source: Adapted from Table 3, Datt, Jolliffe and Sharma, 1998.

As these figures suggest, the nonagricultural economy is also very substantial, accounting for about 50 percent of income in the IFPRI data (Adams 2000). This large catchall category is dominated by government (46 percent), followed by unskilled labor (22 percent), self-employed labor (19 percent) and wages from private sector companies (13 percent).

Agricultural lands are scarce in Egypt. With essentially no precipitation, Egyptian farmers are entirely dependent for water on irrigation from the Nile. Facing great pressure for land, the Ministry of Agriculture and Land Reclamation has spent decades working to expand the “old land” base by developing “new lands” and by distributing those lands to graduates and others. Assessments of the current structure of landholdings vary. According to the 1997 IFPRI data, three quarters of all households do not own farmland (Adams 2000). El-Laithy *et al.* (1999) present data showing almost 70 percent of landowners possess less than one feddan and 93 percent possessing less than four feddans.⁵ On the other end 2 percent own 33 percent of the land, and 0.3 percent (whose ownerships are above 50 feddans) own 15 percent of the land.

⁵ A *feddan* is equivalent to 4,200 square meters, 0.42 hectare or 1.038 acre.

Figure 2: Shares of Income by Sector (Richard Adams)



Adapted from Adams 2000, Table 2

A more recent study by Fawzy *et al.* (2002) finds that the majority of the land (70 percent) is in small farms of less than five feddans. Three-quarters of the farms by area is under the control of pure owner-operators, and the rest is a mixture of ownership and tenancy. After land reform in the 1950s and further generational fragmentation, there are very few large estates in the Old Lands (about 80 percent of the area). In the New Lands there are more large holdings, but much of the reclaimed land is either allocated to small farmers or graduates, or it is taken by small squatters, so the percentage of larger farms controlled by “investors” is only modest.

If the incomes of the poorest segments of society are to improve relative to those of the wealthier segments, then the returns to their particular bundle of assets must improve. This requires increased prices or gains in productivity or both. Generally, the poor earn their incomes from labor, rather than capital. The question, in the Egyptian context, is what type of growth most favors the prices and productivity of rural labor?

Above, it was suggested that the impact of nonagricultural growth on poverty depends on the productivity of that sector. Radwan and Lee identified the 'tertiarization' or urbanization of the rural sector, whereby an important portion of the rural workforce was forced out of agriculture but not absorbed in urban markets and therefore remained in rural areas (1986). Adams argued that in Egypt, a relative scarcity of productive agricultural land means that potential farmers are pushed into the nonagricultural sector at very low levels of productivity and that increases in demand for the goods of this sector should accrue to the poor and improve income distributions (Adams 2000). But even within the non-agricultural sector, the structure of growth matters. Using models to identify Gini coefficients, Adams shows that growth in the incomes of government, private sector enterprises and unskilled nonagricultural laborers (such as construction, brick-making and ditch digging) lessen income inequality while growth in the

incomes of self-employed artisans does not.⁶ At the same time, he finds that because of skewed landholdings in the agricultural sector, agricultural growth disproportionately favors the wealthy, thus worsening the income distribution.

Returning to his observation that the agricultural sector has a disproportionate number of rich landowners, Adams suggests that the indirect effect of their spending (resulting from income growth) would not accrue to the labor-intensive domestic businesses needed to jump start job creation. Rather, they prefer to buy imported luxury items with a high capital content. In the specific case of Egypt, Adams thus suggests that income earned in the rural nonfarm sector represents the agent of positive change for the poor in rural economy (Adams 2001). However that study does not address the issue of how to stimulate demand for the goods and services produced by that sector.

2.4 Small and Micro Enterprises in Egypt

For the purposes of this research, the acronym SMEs refers to small (5 – 15 employees) and micro (less than 5 employees) enterprises. Small and micro enterprises are a major component of developing economies today. Governments, donors, as well as development practitioners (among others) have repeatedly stressed their vital economic and social role. They have been recognized as a major source of employment and income in many countries of the third world. According to Mead and Liedholm (1998), nearly a quarter of the working population of third world countries is employed in SMEs. In Egypt, as the table below delineates, SMEs constitute almost 99 percent of private non-agricultural enterprises and provide 66 percent of private non-agricultural employment.

Table 1: Private NonAgricultural Enterprises in Egypt by Size

Size	Percent of Private Non-Agricultural Enterprises	Percent of Private Non-Agricultural Employment
Micro (1-4)	92.6%	52.0%
Small (5-14)	6.1%	14.0%
Medium (15-49)	0.9%	7.4%
Large (50>)	0.4%	26.6%
Total	100.0%	100.0%

Source: Ministry of Economy (1998)

While the above figures indicate that the size structure of the Egyptian private sector is sharply polarized, this polarization is not unique to Egypt. Other developing countries (e.g. Indonesia, Argentina, Morocco and Mexico) appear to have similar size structures. However, few countries (e.g. Mexico) share with Egypt the concentration of private employment in small firms (World Bank, 1994). A survey carried out by Mead and Liedholm in a number of developing countries indicates that "17-27% of the population of working age are employed in SMEs. In the five African countries surveyed, the estimated total number of people engaged in micro and small

⁶ The descriptions of these categories offered in Adams (2000a) do not facilitate a correspondence with the sectors as defined in this report.

enterprises is nearly twice the level of employment in registered large-scale enterprises and in the public sector" (1998, p. 62). Here it should be stressed that this distinctive feature becomes even more evident when considering the fact that Mead and Liedholm studied an even broader universe of enterprises that encompasses enterprises that employ up to fifty employees.

The above size classification (micro, small...etc.) is still arbitrary in nature. It should not be taken to denote homogeneity within the size categories. This is especially true in the micro category, where one-person establishments constitute slightly more than 50 percent of all enterprises (and 17 percent of total employment), followed by two-person establishments, which account for 26 percent of all private enterprises (and 17.6 percent of total employment) (Arab Republic of Egypt 1996). In fact one-person enterprises constitute almost half the SME universe in Egypt, a phenomenon that was similarly observed by Mead and Liedholm in their 1998 cross-country study.

Many publications differentiate between one-person enterprises and micro-enterprises. The Directory for Governmental and Non-Governmental Organizations Supporting Small and Medium Scale Enterprises in Egypt, issued by Friedrich Ebert Stiftung (2000), depicts a continuum (involving several variables including; skill level, number of workers, management diversification, fixed assets, access to formal finance, marketing...etc.) from survival activities to large ones. On the low end of the spectrum exist "survival or self-employed activities" that comprise the poorest of the poor. Entrepreneurs in this case lack necessary skills, experience, financial resources, access to markets...etc. and are generally informal (not legally licensed). Micro-enterprises (artisans) generally employed up to nine workers and are generally involved in handicraft activities, family production and cottage industries. They have minimal fixed assets and some of them (though still a minority) is formally registered. Enterprises with 10-50 workers are more organized entities, where the owner/operator hires and divides tasks among labor. Financial and managerial aspects are undiversified and are usually run by the owner, while technical aspects might be entrusted in some cases to a 'foreman'. Access to formal finance and markets is still limited, but most of the enterprises are registered (Friedrich Ebert Stiftung 2000).

Davies *et al.* in their 1992 study of small manufacturing firms in Fayoum and Qalubiya make another related distinction between household enterprises on the one hand and micro enterprises on the other. Household enterprises are described as follows:

- Low fixed assets
- They rely on a minimal use of machinery and equipment.
- The skill level of workers is usually low and widely available.
- Workers are family members, usually low skilled and often female
- Firms are small and technologies simple
- Entry into household industries is easy
- Production costs and product prices are low
- Targeted consumers are those with low income
- Incomes to producers are low but many, often disadvantaged, people participate
- These products or substitutes can be easily mass- produced. Consequently, household enterprises face substantial competition from larger firms
- Stagnant returns are likely

Micro-Enterprises on the other hand are set apart by the following features:

- More complex production patterns, making use of more machinery and equipment.
- Have a more skilled hired workforce.
- Larger firm size
- More highly capitalized.
- Higher returns
- Better demand outlook

2.4.1 Capital

While it is well known that SMEs utilize a minimum of capital, few studies have considered the size of capital for SMEs in Egypt. The control group in a recent study of the effectiveness of financial assistance in employment creation in the sector in Egypt had an average capital of LE 58,963 (as opposed to LE 78,051 in the intervention group).⁷ In the vast majority of cases (more than 85 percent), savings or self-finance constituted the primary source of initial capital (El-Mahdy and Osman 2000).

2.4.2 Marketing Channels

Most SMEs are confined to markets within their immediate geographic domain. According to the World Bank, 82 percent of small firms (defined as those employing less than 10 workers) sell directly to customers, with 56 percent of all SME production done on order basis (World Bank 1995). The same pattern was confirmed by Davies' field work on household and micro enterprises, as the following table shows (Davies *et al.*, 1992):

Table 2: Marketing Patterns for Micro and Household Enterprises

	Percent of sales where production was made in response to orders	Primary Source of Order (% of all firms)			
		One Merchant	Several Merchants	Final Consumer	Other (No Orders)
Household	18.4	5.9	1.2	46.4	46.6
Micro	83.3	2.2	0.5	92	5.3

2.4.3 Informal Enterprises

No accurate estimates for the size of the informal sector exist in Egypt. Apart from the difficulties encountered in censuses conducted by the authorities, the nature of informality itself, in the sense of its either being expressed as a continuum or a dividing line, poses another difficulty. In a 1998 study by El-Mahdy and Powell, only 18 percent of enterprises in Greater Cairo abided by all legal procedures (1999). In this sense, almost 82 percent can be considered

⁷ It should be stressed that the above figure applies mainly to formal establishments. Another study of the informal sector (El-Mahdy and Powell 1999) demonstrates that around 47% of informal establishments started operations with less than LE 100 (\$24).

informal. This percentage varies, however, when considering the degree of compliance with the various legal procedures, with 35 percent being non-compliant with one of the legal procedures. In a later study, Nassar provided an estimate of 50 percent of private sector enterprises that are informal (1999).

Another related distinction is being made between establishments and non-establishment SMEs. The Labor Force Sample Survey defines an establishment as a firm located in "a building, part of a building, or some fixed facility used regularly for an economic activity". According to Fergany, "the in/outside establishment classification is a bit ambiguous. It does not transparently translate into formal/informal. Employment in establishments represents an upper bound on "formal" economic activity. Conversely, employment outside can be taken as a lower bound on informal economic activity." (1998a p. 2.) Independent outside establishment employment (where the owner/operator does not hire workers) according to the Labour Force Sample Survey estimates totaled 1,387,600 (Arab Republic of Egypt 1998).

2.4.4 Location

Existing evidence from developing countries indicate that the majority of SMEs operate in rural areas. In their cross-country study of small enterprises in 7 countries, Mead and Liedholm state that "the share of all enterprises in urban locations – cities and towns with at least 20,000 inhabitants – reaches as high as 46 percent in the Dominican Republic and 30 percent in Zimbabwe, but was 25 percent or less in all other countries. Even adding enterprises in rural towns – concentrations with 2,000 – 20,000 persons - still generally leaves well over half the enterprises in most countries in rural areas." (Mead and Liedholm 1998, p. 62)

2.4.5 Growth, Labor and Job Creation

Just as most sources define small enterprises by reference to the size of their workforce, SME growth is likewise often addressed with reference to the workforce. This is related to the widely held notion pertaining to the importance of SMEs for job creation due to its labor-intensive nature and high potential for job creation. However care should be exercised in this regard. Hallberg for example warns that research has shown that labor intensity exhibits more variation across industries or sectors than across firm size categories. Many small firms are in fact more capital-intensive than larger firms in the same industry. Moreover, evidence from advanced countries may suggest that, as far as net job creation is concerned (after allowing for jobs eliminated and firm closures), small businesses did not fare better than large businesses (Hallberg, undated).

The fact that SMEs employ a large share of the labor force has to do with their sheer number; they constitute the vast majority of employers (99 percent of private sector establishments in many countries, including Egypt). In addition, research has shown that small enterprises rarely grow over time (especially micro, and to a lesser extent small enterprises). Those who do were found to add only one or two workers over their lives. According to Liedholm and Mead's study of small enterprises in a number of developing countries, 75 percent of enterprises either witness no change in their workforce or actually shed labor. The remaining 25 percent of enterprises that do grow only add a small number of workers. Most jobs created by the sector (75 percent) are generated through start-ups. According to Liedholm and Mead, only 1 percent of SMEs that start

very small (less than four workers) end up graduating and hiring more than 10 workers (Liedholm and Mead 1999).

In Egypt, the situation is not different from the above picture. A recent USAID study of clients of its microfinance program revealed that 66.5 percent of its clients witnessed no change in their size; while 19.5 percent did generate additional employment, 14 percent of the sample actually shed labor (EQI and Widermann Associates 2001). During the 1996-1999 period, growth in employment was witnessed by only 10.4 percent of small enterprises, compared to almost 80 percent of enterprises that experienced no change, and about 5 percent that actually witnessed a decrease in their labor force (El-Mahdy and Osman 2000).

Accordingly, based on the above, the growth in employment in the SME sector is created by new firm births. However, while birth rates are high in the case of SMEs in developing countries (reaching as high as 20 percent), the same holds true for death rates, for which the same authors provided estimates as high as 20 percent per annum, notably mostly from amongst recently established SMEs (Mead and Liedholm 1998).

Fergany shows that Egypt has witnessed a large rise in the share of large enterprises (defined as employing more than 100 workers) in the workforce from 1976 – 1996, compared to a significant reduction in the employment share of smaller size establishments, which also suffered from relatively higher failure rates (Fergany 1998b). Currently, based on Egypt's 1996 data, large enterprises (50+ workers) that constitute 0.3 percent of all private non-agricultural establishments have the disproportionate share of more than 26 percent of the non-agricultural workforce in the private sector, with the remaining 99.7 percent of private establishments accounting for approximately 74 percent of employment (Arab Republic of Egypt Ministry of Economy, 1998).

In sum, an enterprise's contribution to employment comes about through its establishment (the initial number of workers it had) and the employment it generates (growth in its workforce). While there is a very limited number of in-depth studies on the topic in Egypt, existing data, as well as research findings in other countries, show that while it is true that SMEs employ a large share of the labor force in most countries, the small enterprise's labor generation potential (i.e., the expansion of its labor force) is sometimes significantly overestimated.

2.5 Sectoral Framework

In *The Determinants of Employment Growth in Egypt: The Dominant Role of Agriculture and the Rural Small-Scale Sector*, Mellor and Gavian put forth a model of how agricultural growth drives overall economic growth and in turn employment growth (1999). The Mellor/Gavian model is based on a three-sector economy: agriculture, an agriculturally-driven non-agricultural sector (ADNA) that is stimulated only by agricultural demand, and the autonomous sector which includes all non-agricultural activities except those driven by agriculture. Following the growth linkage, employment increases in ADNA are determined solely by demand, and thus by income growth in the agricultural sector.

As stated above, the purpose of this study is to refine our understanding of these growth and employment links in the Egyptian context. We are thus operationalizing these concepts by more rigorously defining the relations between the agricultural and nonagricultural sectors in terms consistent with national income accounting.

In the current study, we partition the economy into sectors based on the nature of the goods and services generated. We further disaggregate the sectors by ownership, location and type of enterprise. Thus Table 3 distinguishes between private and government ownership; agricultural and non-agricultural outputs⁸, small and large enterprise size, and metropolitan and non-metropolitan (rural and small town) locations.

Table 3: The Framework for the Sectors

Ownership	Type of Output	Type of Firm	Rural/Urban Classification	Geo Hierarchy
Private	Agricultural	Independent/Micro/Small	Rural	Villages & Small Market Towns
			Urban	Cities
		Large		Metropolitan Areas
			Rural	Villages & Small Market Towns
			Urban	Cities
				Metropolitan Areas
	Non Agricultural	Independent/Micro/Small	Rural	Villages & Small Market Towns
			Urban	Cities
		Large		Metropolitan Areas
			Rural	Villages & Small Market Towns
			Urban	Cities
				Metropolitan Areas
Government			Rural	Villages & Small Market Towns
			Urban	Cities
				Metropolitan Areas

⁸ Note that nonagricultural in Table 3 includes the private part of all services and manufacturing (mining, industry), much of which would have been consider the “Autonomous sector” in Mellor and Gavian (1999).

Note that both in the table and throughout the paper, the word *sector* is used very flexibly in reference to any of the cells above. Thus we use terms such as the private and public sectors, the urban and rural sectors, and the small business sector based on the understanding that these are all equally valid and internally consistent ways of partitioning up the economy into analytically meaningful units.⁹

The rural sector is used as shorthand here for villages and small towns. Although conceptually, urban is intended to include both cities and metropolitan areas, the sample did not include the latter (see Section 3.1 for more details concerning the sampling strategy). In Egypt, however, where populations have crowded for thousands of years along a narrow fertile belt that runs through the harsh desert, the distinction between urban and rural is relative. Metropolitan areas, governorate capitals (headquarters) and district capitals (headquarters) are *urban*. The rest of each district is divided into local units, which are considered *rural*. The 1996 census data show Egypt to be 43 percent urbanized by this definition. Four of Egypt's 27 governorates are classed as "Metropolitan", with absolutely no rural population (Cairo, Alexandria, Port-Said, and Suez). Five are desert. Taken as a whole, the remaining governorates of Upper and Lower Egypt are 29 percent urban and 71 percent rural. However, population densities in Egypt are very high, even in officially "rural" areas. While the overall population density of approximately 60 persons/square kilometer and 154 persons/square mile is low, this figures masks tremendous extremes of sparsely populated deserts and among the world's most densely populated cities. The 1996 population density for Upper Egypt is 225 persons/km² (583 persons/mile²), while that of Lower Egypt is 931 persons per km² (2,412 persons/mile²) as compared with 52 persons/km² for all developing countries and 27 persons/km² for the Middle East and North Africa and 28 for Sub-Saharan Africa (World Bank data).

2.6 Hypotheses

The purpose of this analysis is to establish, for the case of Egypt, the potential for agricultural growth to provide a major stimulus to employment growth, which is linked to poverty reduction. We hypothesize that agriculture is a major component of rural incomes in Egypt; that rural populations tend to buy goods and services that are produced by local (or at least domestically) small businesses; that these small businesses are labor-intensive and are able to respond to increased demand by creating jobs. At first, local businesses create employment by extending the hours of existing workers, but eventually they create new jobs. These processes can be grouped into a series of hypotheses that will be tested with survey data and other information on the Egyptian economy.

- The first hypothesis concerns the flow of income from the agricultural sector to the non-agricultural sector (in particular, small businesses) in rural areas. It is hypothesized that rural households rely on agricultural incomes and spend on small local businesses; by extension, it is hypothesized that urban households will be less dependent on agriculture for their incomes and less likely to spend in local small businesses.

⁹ Note that the sectors in Table 3 are not defined by the source of demand for their products or *driveness*, as the term was used in Mellor and Gavian (1999). The degree to which increased demand for the products of one sector depends on income growth in another will be empirically established in Section 4.3 of the current study.

- The second hypothesis relates to the links between small businesses and the local community. SMEs are hypothesized to constitute a large sector that is highly dependent on (contained in) the local economy. They draw their demand, labor and other inputs from the local economy, and this economic isolation is thought to be stronger in rural communities than in urban ones.
- The third hypothesis concerns the response of small businesses to increased demand. Demand is thought to be the major constraint to SME expansion, and SMEs are hypothesized to be ready to respond to an increase in demand. SMEs are presumed to be labor-intensive, and thus respond to increased demand by hiring local labor. Rural SMEs are hypothesized to be more employment-intensive (i.e., use a greater proportion of labor to capital) than urban ones and thus more likely to add jobs when demand increases.

3. METHODOLOGY

The data used for this study came from three different surveys targeted to: households, Established Small and Micro Enterprises (E-SMEs), and Home-Based Enterprises (HBEs). By established SMEs we refer to enterprises with fixed premises used regularly for economic activity. HBEs, on the other hand, are those enterprises that lack such premises and are most likely located within the household.

The household survey was designed to illustrate how households earned their income and where they spent it. More specifically, the survey was used to determine the sectoral distribution of household income and household spending, with a particular focus on the importance of agricultural income and spending on small and micro enterprises. The surveys were also designed to provide estimates of the number of jobs in each of the sectors, with a particular focus on identifying labor in non-established SMEs not otherwise identified in other surveys.

The purpose of the SME surveys was to determine the major characteristics of rural SMEs, which are poorly documented for the case of Egypt. Questions focused on the type of activity, the size and nature of the labor force, capital investments, and their response to changes in demand. Because of the differences between E-SMEs and HBEs, this information was collected in two separate, but generally parallel, sets of forms and procedures. Primarily because they are located within the household, HBEs are hard to find and require a separate sampling strategy.

Each of the three surveys was carried out in the same sampled villages and hamlets. The method for identifying SMEs and households that made up the sampling frame is described in Section 3.1. The method for determining the sample size follows in Section 3.2. The issues involved in weighting and interpreting the sample results are found in the final sections.

3.1 The Sampling Frames

In accordance with the objectives of this study, three surveys were conducted in each of the selected geographical areas. For the E-SME survey and the household survey, official lists were used to establish a sampling frame. For E-SMEs, a complete listing for each village was obtained from the local unit administrative office. The household sampling frame was based on a complete listing of all residential units. In Sharqeya and Beheira, these data came from a list of all households with registered electricity meters provided by the local electricity company. In Assiut, a complete household listing was obtained from the local health care unit in each village.

The sampling strategy for the HBEs was more complicated because there was no listing available. (Such enterprises are home-based and usually not registered with the Government.) A first questionnaire was administered to the 600 households that fell in the household sample. If, as a result of responses to questions on the first questionnaire, the household contained a non-established enterprise, a second questionnaire was administered to the owners of that enterprise.

3.1.1 Selecting the Survey Areas

Although this study focuses on rural Egypt, the sample included a small number of households and small businesses from urban areas. It is not strictly possible to generalize to all of Egypt from such a sample. Nonetheless, analytically it can show the extent to which urbanization might influence the results.

The study adopted a stratified three-stage systematic random sampling technique. This was achieved as follows.

3.1.2 The Governorate Level

The surveys were carried out in 3 of the 17 governorates of Upper and Lower Egypt. The remaining Urban and Frontier governorates were excluded because of their lack of agriculture.¹⁰ The 17 governorates of Upper and Lower Egypt were stratified into three clusters, based on several criteria. These included geographical representation (Upper vs. Lower Egypt), proximity to metropolitan areas, availability of both old and new lands, the poverty level (measured by the UNDP poverty index), the unemployment rate, the share of agricultural labor force, persons per *feddan* and population density. One governorate was randomly selected from each of the three resulting clusters. These were Assiut (Upper Egypt), Beheira and Sharqeya (both of Lower Egypt). Lower Egypt was represented by two governorates because of the larger geographical size and concentration of governorates in the Nile Delta.

- *Assiut* lies in the center of the Upper Egypt region.¹¹ Its total area of 25,926 sq. km. is divided into 10 districts. According to the 1996 census, the governorate's population was 2.8 million. The majority of Assiut's population (64 percent) lives in administrative units classified as rural, but overall the Assiut governorate has a population density of 1,805 persons/square kilometer.
- *Beheira* is located in the northwest part of Lower Egypt, with a total area of 10129 sq. km. The governorate is administratively divided into 13 districts, with a total 1996 population of 4.0 million, of whom nearly 77 percent reside in administrative units classified as rural. The population density of Beheira is 394 persons/square kilometer, which partly reflects larger farm sizes in its new lands areas.
- *Sharqeya* lies in the southeast part of Lower Egypt. Its total area of 4195 sq. km., is administratively divided into 15 districts. According to the 1996 census, Sharqeya's 1996 population was 4.3 million. The majority (77 percent) live in rural administrative areas; the population density of Sharqeya is 1,024 persons/square kilometer.

¹⁰ These governorates are, Alexandria, Cairo, Matrouh, New Valley, Port Said, Red Sea, North Sinai, South Sinai, and Suez.

¹¹ The data presented in this section is based on the results of the 1996 Census published by CAPMAS (Arab Republic of Egypt 1996)..

The capital of each governorate was selected for the sample. Each capital city was divided into four quadrants to avoid geographical bias, and a fixed number of units were selected from each (see table in Section 9.1). District headquarter cities were also included.

3.1.3 The District Level

Within each governorate two districts were selected randomly. To avoid bias in our selection, all the districts in each governorate were ranked according to a deprivation index composed of a number of indicators, and accordingly one relatively rich and one relatively poor were selected.¹²

In general, each district consists of one capital city and a number of local units (LUs). The urban part of the district sample was drawn from the district capitals. The rural part of the sample for each district was taken from the local units (below).

As with the governorate capitals, each district capital was divided into four quadrants, with a sample of five taken from each quadrant. In Beheira, the capital of the selected district (Damanhour) happened to also be the capital of the governorate. Therefore the final sample in this governorate included only two, rather than three, cities.

3.1.4 The Local Unit and Village Levels

Local Units are composed of one mother village and a number of smaller villages plus their surrounding hamlets. Two LUs were randomly selected from districts with more than five LUs and only one LU from those with less than five LUs. In all, nine local units were selected.

From each local unit a random sample of two villages plus the mother village was chosen. In addition, the sample included five hamlets around one of the villages.

3.2 Setting the Sample Sizes

A total of 600 households, 600 established SMEs and 600 HBEs were targeted for each of the three surveys. The ultimate sample size varied due to field conditions. Sample units were selected from both urban and rural areas, where the former consists of both the capital city for the governorate and the district, while the latter includes local units, mother village, and smaller villages for each of the three separate surveys. Twenty sample units were drawn from each of the eight cities in the sample. The remainder (440 units) was distributed as follows:

- Household: The targeted 600 units were divided equally among the three governorates (200 each). As mentioned above, 160 households were selected from urban areas. The remaining portion of the sample (440 households) was drawn from rural areas. In each governorate, fifteen households were selected from the hamlets in each local unit. The rest of the sample was distributed among the local units in proportion to the total number of residential units.

¹² These indicators are: illiteracy, unemployment rates, dependency rates, family size, crowding (person per room), as well as the share of families with access to electricity, a main water network, sanitation services and a kitchen.

- HBES: the sample size was set identically to the household survey.
- E-SME: As with the other two surveys, 20 units were drawn from each of the eight selected cities, and the remaining proportion of the sample in each governorate was drawn from the local units. The total sample (600 units) was distributed 160 to urban areas and with the remaining 440 distributed among the three governorates in accordance with the proportion to the total number of SMEs in the selected areas.

3.3 Weighting the Sample

The sample was drawn to represent all rural communities in Upper and Lower Egypt. As there are no rural communities in the great unsampled metropolitan areas and very little in the also unsampled Frontier governorates, the rural figures can also be taken to represent the total rural population of Egypt. On the other hand, very few households and businesses were sampled in urban areas, and statistics from these samples cannot be used to represent Egypt with great confidence. They do, however, provide a general idea of rural-urban differences. Because of the weakness of the urban sample, we cannot derive figures representative of the national situation.

In order to extrapolate results beyond the individual respondents to represent the respective rural and urban populations, each sampled unit was weighted by its importance in the national total. First, it was weighted according to its importance in the village. The village was in turn weighted relative to its local unit, the local unit relative to the district, the district relative to the governorate, and the governorate relative to the nation. The actual weights differed for each survey, depending on the actual sample size and the official lists of the total population (of households and established SMEs).

3.4 Survey Logistics

The study was undertaken in stages. The fieldwork for the established SME survey was carried out from March through May 2001 by EQI researchers and supervisors in both Sharqeya and Beheira, and local surveyors under the EQI supervision in Assiut. The fieldwork for the household and home-based enterprise surveys was carried out in February 2002. Due to time constraints faced by interviewing twice as large a sample in a third of the time, the household and home-based surveys were conducted by teams of five experienced local surveyors in each of the governorates, under the supervision of three senior researchers from EQI. The research was conducted in parallel in the three governorates. Delays in receiving the official permission from CAPMAS to conduct the research also contributed to time constraints.

In all cases, the research instruments were pre-tested and modified accordingly. Moreover, both EQI researchers and local surveyors received extensive training on the research instruments. To ensure random selection of our samples, a back-up list was prepared to replace unavailable respondents and those who refused to take part.

In both surveys it was imperative to receive assistance from the local unit administrators to facilitate researchers' entry to communities under study. Local officials helped in compiling the listings and guided the surveyors to enterprise/household addresses.

4. RURAL JOBS, INCOMES AND SPENDING

There are numerous links between agricultural and nonagricultural growth in rural areas are numerous and include the flow of incomes and people between these two sectors. In this section we provide a snapshot of how rural households earn and spend their incomes, with particular attention to the role of agriculture as a source of incomes and jobs. Although our focus is on the rural households, we also include results on the very small sample of urban households included in the survey. In the next section (5) we describe the major characteristics of SMEs, which make up the bulk of the private nonagricultural sector.¹³ In section 6 we home in on the linkages between agricultural incomes and SME demand, and study their implication for agriculturally-led SME growth and job creation.

4.1 Rural Jobs and Incomes

According to the survey results, rural households have an average of nearly seven members, two more persons than urban households (Table 4). These figures are somewhat larger than in other surveys of Egypt. Using CAPMAS data, El-Laithy *et al.* (1999) give household sizes as 5.5 persons in rural and 4.4 in urban areas. An IFPRI survey (Datt and Jolliffe 1998) produced an average household size of 5.8 persons. The differences may in part be due to differing sampling strategy (where the current survey does not include metropolitan areas).

Few of the household members work at jobs that permit them to make cash contributions to the household budget (1.5 per household), and most of those breadwinners only have one job. There are very few households in rural areas headed by women, and spouses (regardless of gender) usually are not involved in income-generating activities. Women play a considerably bigger role in urban areas, both in heading households and supplementing household incomes. Results from Datt and Jolliffe (1998) suggest that the current finding may understate the role of women, given that they found 15 percent of all households to be female-headed.

Note: A *household* was defined as a group of people, not necessarily related, who both eat together (from the same budget and cooking facilities) and sleep in the same dwelling most of the time. A *breadwinner* is a household member who makes cash contributions to the household budget. A *FTE job* converts the total number of hours worked by each individual in each job into its full-time equivalent (thereby combining seasonal and part-time jobs into full-time jobs). *Other cash contributing members* are non-spouse, non-offspring household members who contribute cash to the household budget; it includes other relatives and non-relatives to the household head.

¹³ For a schematic drawing of the relationship between these sectors, see Section 2.5.

Table 4: Household Demographics

	Rural	Urban
Household Size (Persons)	6.9	4.9
Number of Breadwinners	1.5	1.5
Number of Different Jobs per Household	1.6	1.7
Number of Jobs per Breadwinner per Household	1.1	1.2
% HHs with Contributing Spouse	16%	36%
% HHs with Contributing Offspring	35%	19%
% HHs with Other Cash Contributing Members	98%	90%
% Female-headed HHs	2%	8%

4.1.1 Jobs

We evaluate employment three ways: total hours, number of jobs, and full-time equivalent jobs. Survey respondents were asked how many different remunerative activities they had, as well as the share of their time and hours per week they typically worked in each activity. Consistent with the CAPMAS method for counting jobs, each person who spent more than one hour per year in a remunerative activity was considered a breadwinner, and that activity was counted as a *job*. To consolidate full-time, seasonal and part-time activities into a common measure, hours per week were converted into weekly full-time equivalents using sector-specific averages for the duration of the sector workweeks.¹⁴

The breakdown of employment by sector was approximately the same using measures of hours, jobs and FTEs (Table 5). This suggests that most jobs involve roughly the same number of hours and involve an equivalent blend of full and part-time activities. Private, non-agricultural employment (i.e., in SMEs and in medium and large businesses) accounts for about half of the total in both rural and urban areas. Most of this (85 percent) is in small enterprises, which are more important in urban areas, where the poor do not have access to land. A third of Egyptian work hours are in the government sector; this share is slightly higher in urban areas and lower in rural ones. It is also slightly higher in terms of jobs and full-time equivalents. The agricultural sector accounts for 22 to 25 percent of employment in rural areas and less than 2 percent in urban areas.¹⁵

¹⁴ No attempt was made to determine how industrious a worker might be. All the time engaged in a given activity was counted toward the full-time equivalent measure, without regard to productivity. Sector-specific standards for the average workweek were computed from survey data for household members engaged in only one job throughout the year.

¹⁵ According to the 1997 data used by Datt, Jolliffe and Sharma, 39 percent of the households in the rural sector reported any agricultural cultivation (1998).

Table 5: Employment by Sector: Hours, Jobs, Full-Time Equivalents

	Hours/Week		Jobs		FTE	
	Rural	Urban	Rural	Urban	Rural	Urban
Total	511369723	427889804	10665724	10452135	9908687	8418249
Agriculture	126350048	9337180	2474864	132910	2167239	160157
SME	176545979	241988460	3515018	5236002	3108204	4260360
Med, Lg Bus.	48227565	27785625	842294	579563	862747	497059
Govt	160246131	148778539	3833548	4503659	3770497	3500672
Shares	100%	100%	100%	100%	100%	100%
Agriculture	25%	2%	23%	1%	22%	2%
SME	35%	57%	33%	50%	31%	51%
Med, Lg Bus.	9%	6%	8%	6%	9%	6%
Govt	31%	35%	36%	43%	38%	42%

4.1.2 Incomes

According to the survey results, the average household income was LE 13,426/year (\$3,182) a year in rural areas and 11,310 LE/year (\$2,680) in urban areas.^{16 17} Nearly all of the income for Egyptian households is earned, which is to say it comes in the form of cash payments for labor (88 and 91 percent in rural and urban households, respectively). The rest comes from the value of household food production and what they receive as unearned income in the form of remittances, pensions, rents, and gifts or charity (Table 6).¹⁸ This means that households are tremendously dependent on wage labor for their incomes, even in rural areas.

¹⁶ The exchange rate used for this and subsequent conversions is US\$ 1 = LE 4.22. This is the annual average of the “typical cash rate” daily during the 2001 calendar year taken from Oanda.com.

¹⁷ On a per capita basis, these values were LE 2167 (\$514) and LE 2527 (\$599) in rural and urban areas, respectively. These income figures are somewhat lower than data derived from the latest household income, expenditure and consumption survey conducted by CAPMAS in 1999/2000 using a different survey methodology with much larger sample size. For the purposes of this study, figures for total income (and expenditures) are being used to determine the importance of the relative components. They should not be taken as absolute estimates of incomes or poverty in Egypt.

¹⁸ The low shares of “unearned” income are consistent with the IFPRI result that net transfers are about 2.2 percent of mean per capita expenditures in Egypt, given the differences in survey methodology and definitions (Datt, Jolliffe and Sharma 1998). Likewise, that report also suggests that a very small proportion of households actually receive transfers.

Table 6: Total Household Incomes: Earned, Unearned and Home Produced

	Rural	Urban
Total Household Income (LE)	13426	11310
Earned	88%	91%
Home Produced Food	7%	2%
Unearned	5%	6%
Of which:	100%	100%
Pensions	44%	55%
Remittances	2%	2%
Rents/Revenues	40%	28%
Other	14%	15%

The income from each of these sources (earned, unearned, and home produced food) was then divided up by the sector of origin. For the largest portion, earned income, survey respondents described their income-generating activities by size of enterprise, location, ownership (private or public) and sector (agriculture, trade, services and manufacturing). The value of the food they produced at home was attributed to either the rural or urban agricultural sector, depending on their residence. Because people may not know the sector in which unearned income they receive may have been generated, remittances, pensions, rents, and gifts were grouped as other/unknown.

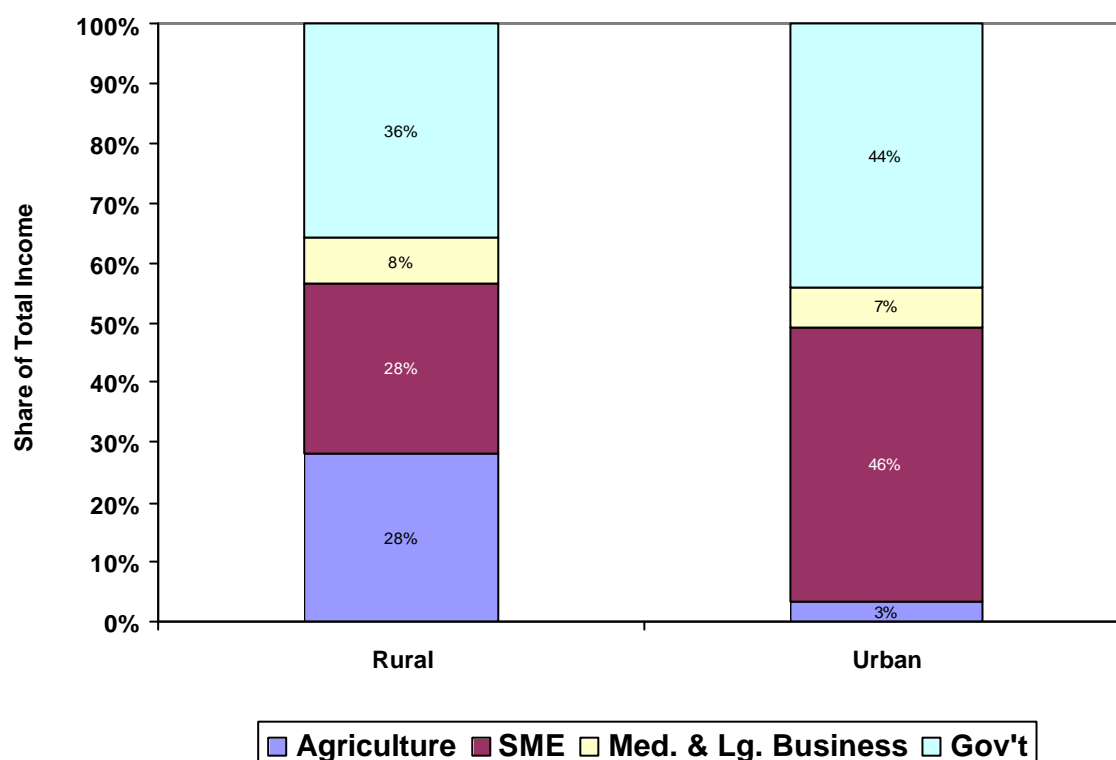
The results (Figure 3) closely mirror the employment shares shown in Table 5.¹⁹ Both government and SME employment figure very prominently in household incomes. Rural Egyptians derive the largest share of their incomes from the government sector (36 percent), followed by SMEs and agriculture (28 percent each), and medium and large business (8 percent). The relative position of the SME and government sector in generating incomes is reversed for urban Egyptians (46 percent and 44 percent respectively). Income from medium and large businesses accounts for 7 percent and urban agriculture (in city or metropolitan areas) is a very minor 3 percent of total income.

¹⁹ In part the tight parallel between income and labor shares is due to the assumptions made during the computation of these figures. It was assumed during a one-shot survey that respondents would be both unwilling and unable to give a full sense of their incomes. The questionnaires therefore focused on consumption from expenditures, gifts and homegrown produce; the sum of consumption was equated with total household income (column 1 on the schemata in Figure 15 of the Appendix). Total household income was then partitioned amongst household members based on their share of total household hours worked, thereby assuming equality of wages between household members and income generating activities. Each individual's income was then partitioned amongst his or her income generating activities based on the respondent's declaration of how much income was earned in each of those activities. Then each activity was associated with an economic sector of the economy. The monetary value of the activities were then rearranged by sector and summed up to the household level.

The use of hours as a proxy for household member income shares was a necessary simplification due to data collection problems that rendered the information on each individual's share of total household income invalid. To check the potential bias introduced by using time-shares as a proxy for income shares, the results for the two methods of computation were compared for the subset of households that had useable data for both. The differences in sectoral income patterns derived using the two methods were minor and justified by the advantages of being able to incorporate all rather than one third of the households.

In relation to the hypothesis that the agricultural sector provides a major source of incomes in rural Egypt, the results are therefore qualified. As one would expect, rural households rely more on agriculture for their incomes than urban households (28 percent versus 3 percent); but even in rural areas, agriculture makes up less than a third of household incomes.

Figure 3: Total Income by Sector



How does this modest role for agriculture compare to other developing countries? In order to compare across countries, we switch from survey data to World Bank data for agricultural value added as a share of gross domestic product, for which Egypt's share is 17 percent. Egypt is less agrarian than the average for all low-income countries (23 percent agricultural value-added) but more agrarian than the Middle Eastern average (14 percent) and the average for developing economies in general (11 percent). In this light, Egypt's economy is moderately agricultural by comparison with similar countries.

4.2 Household Spending

The larger the agricultural sector, the greater will be the potential impact of its growth on domestic employment. At the same time, the strength of the link between agricultural incomes and SME employment also depends on how much of that income gets spent on the goods and services that SMEs provide.

4.2.2 What Households Buy

The cash component of the total income figures shown on Table 6 comprises 93 percent of total income in rural areas. The remainder comes in the form of home-grown food and in-kind gifts (as opposed to cash gifts). Households were asked how much they spent weekly on a list of food

items, monthly on a list of regular expenditures, and annually on a list of exceptional expenditures. They were also asked where they purchased each item in terms of location and economic sector.

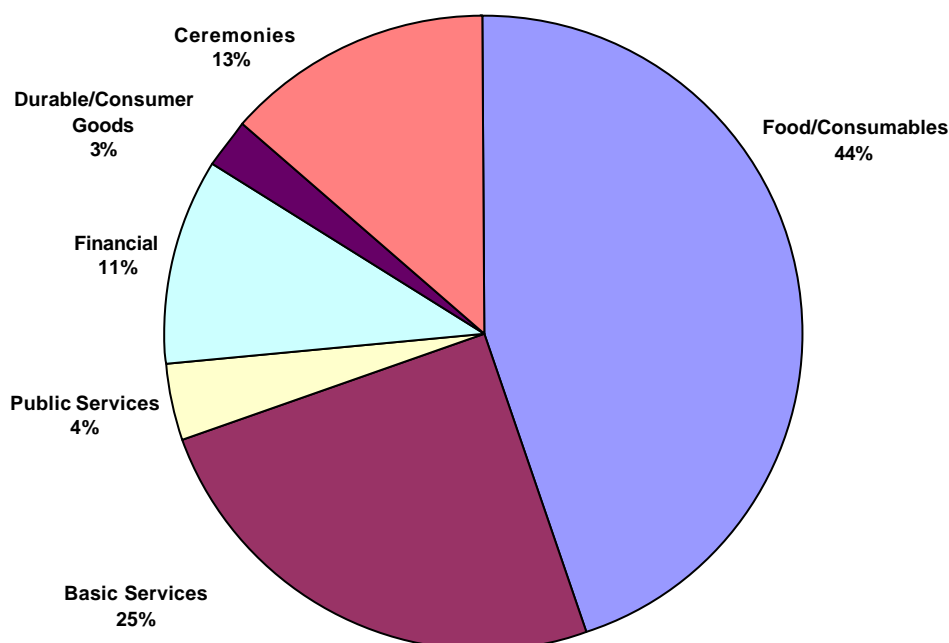
Of the 12,474 Egyptian pounds (\$US 2,956) spent annually by rural households, slightly less than half (47 percent) is devoted to food (Figure 4). Another quarter is spent on basic services (e.g., housing, fuel, medical, clothes, education, transportation and fuel). Ceremonies (e.g., religious, marriages, births, funerals, *Haaj* and *umra*) and financial transactions (e.g., debt payments, *gamia*, and *noqot*) account for about 10 percent of household spending. The remaining seven percent is split between public services (e.g., electricity, water, sanitation and taxes) and consumer durables.

Urban households have very little homegrown food (Table 6), but otherwise maintain generally the same spending pattern as shown for rural households (not shown).

There is surprisingly little distinction between rural and urban Egypt in terms of food consumption. Rural households consume more food on a household basis but about the same on a per capita basis. In addition, both populations rely heavily on markets rather than home production (Table 7). Rural households gained a slightly greater proportion of their food from in-kind sources than urban ones (13 percent versus 4 percent).

Figure 4: Rural Household Expenditures by Category

Based on data from the 1995/96 Household Income Expenditure and Consumption Survey (HIECS), El-Laithy *et al.* (1999) found a slightly greater overall proportion of budget devoted to food (56 percent) than shown in Figure 4; as above, the proportion of rural consumption



devoted to food was

greater than for urban (60 percent versus 52 percent). These greater food shares are likely due to the more careful inclusion of home produced food in the consumption figures.²⁰ Data on the other expenditure categories are more difficult to compare.

Table 7: Household Food Expenditures: Rural versus Urban

	Rural	Urban
Food Consumption (LE)	100%	100%
In Kind Share	13%	4%
Cash Purchase Share	87%	96%
Type of Food (share of cash food purchases)	100%	100%
Groceries	25%	22%
Foul/Tamia	6%	5%
Milk & Eggs	6%	8%
Bread	5%	7%
Vegetables & Fruits	18%	17%
Tobacco & Maasel	6%	7%
Meat, Poultry & Fish	31%	32%
Others	3%	3%

4.2.2 Where Households Shop

Table 8 provides a breakdown of household purchases by sector and location. Assuming that households do not differentiate between a pound earned in agriculture versus a pound earned in another sector and that they spend the next pound earned in the same manner as the last pound earned, then the current breakdown of purchases by sector should provide an indication of where households will spend additional income.²¹

The survey results strongly support the hypothesis that households make their purchases locally. Rural households spent 77 percent of their cash incomes in their villages and only 22 percent in cities. The tendency to buy locally is even stronger for urban households who presumably have a greater range of consumer choices available in their vicinity. Fully 98 percent made their purchases in cities. Essentially none of the households in this non-metropolitan sample traveled to metropolitan areas to shop (e.g., Alexandria, Cairo, Port Said, or Suez).

²⁰ The HIECS survey involved 14,800 households recording their purchased and home produced consumption daily for a month, whereas the current survey relied on generalized recall.

²¹ In more technical terms, this assumes that the marginal budget share is the same regardless of the source of income and further, that it equals the average budget share. Evidence from Delgado *et al.* shows the average and marginal budget shares to differ somewhat, depending on the item purchased. For example, the average budget share for food for rural households in their sample varied from 72 to 85 percent, while the marginal budget share was about 10 percentage points lower, varying from 62 to 74 percent (1998).

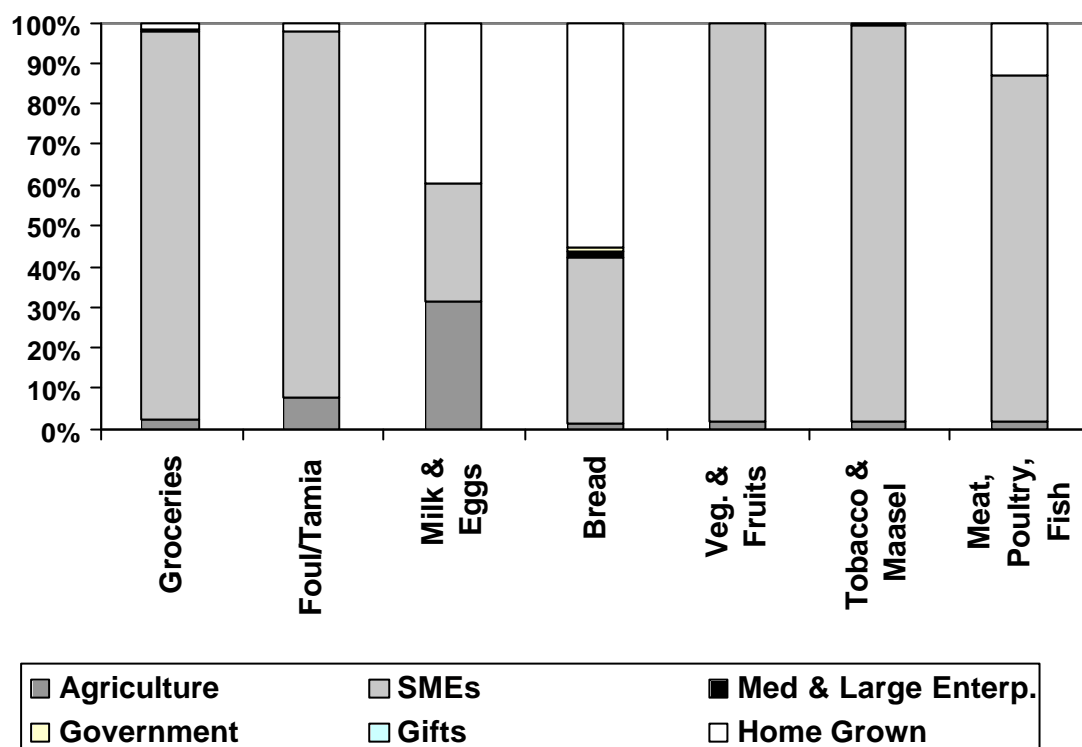
Table 8: Household Purchases by Location and Sector: Rural versus Urban

	Rural	Urban
Breakdown by Location of Expenditure	100%	100%
Village	77%	1%
City	22%	98%
Metro	1%	0%
Breakdown by Sector & Location		
Agricultural Sector	2%	2%
<i>Of which:</i>		
<i>Village</i>	100%	8%
<i>City</i>	0%	92%
<i>Metro</i>	0%	0%
SME Sector	87%	84%
<i>Of which:</i>		
<i>Village</i>	77%	1%
<i>City</i>	21%	98%
<i>Metro</i>	1%	0%
Medium & Large Business	3%	7%
Government	7%	6%

Both rural and urban households make the vast majority of their purchases in small enterprises (SMEs).²² Consistent with the previous result, rural households rely on rural SMEs while urban households rely on urban SMEs. Rural households spend 87 percent of their purchases in SMEs and of that, 77 percent in the village. Both populations rely minimally on goods and services from medium and large businesses or government. In particular, SMEs are an important source of food supplies in both rural and urban areas. Even in rural Egypt, nearly all food comes from small retail shops and street markets, rather than directly from producers (Figure 5).

²² The expenditure questions did not distinguish between purchases in E-SMEs and HBEs.

Figure 5: Components of Food Expenditures for Rural Households by Sector



4.3 Linking Agricultural and SME Demand

Sector linkages are strongest when households have a single sector for earnings and a single sector (either the same or different) for spending. This would be the case, for example, if rural incomes were derived predominantly from agriculture and devoted predominantly to SME purchases. But even a modest share of income from a sector (agriculture, for example) can have an important impact on spending in another sector (*e.g.*, SMEs) if that income is spent mostly in a particular sector. Conversely, a large income share from a single sector spent in a more diffuse pattern between markets can still provide a strong demand linkage.

Table 9 gives a perspective of such demand linkages. The shaded figures are the sector breakdown of earnings (one row) and expenditures (two columns). The unshaded figures in the center are the product of earnings share and expenditure share for each pair of sectors. These can be interpreted as the impact of earnings from each sector on demand for the goods and services of the other sectors. The table illustrates that the impact of incomes on demand depends both on where that income came from and how it was spent.

In rural areas, incomes come from a broad array of sources with the largest share coming from the government sector (36 percent). Purchases are highly concentrated in the SME sector (87 percent). Taken together, the government - SME linkage accounts for 31 percent of total rural income flows.²³ The next strongest links in rural areas come equally from the money people earn

²³ The government to SME link refers to how household incomes earned from government

(continued...)

in SME and agricultural activities and spend on SME goods and services (25 percent total, divided 19 percent in rural SMES and 6 percent in urban SMEs). All other linkages are weak.

Table 9: Origin and Disposal of Income by Sector

	Rural					Urban				
	% Expend .	Share of Income				% Expend.	Share of Income			
		Agr.	SME	M&L Ent.	Gov .		Agr.	SME	M&L Ent.	Gov .
		28%	28%	8%	36%		3%	46%	7%	44%
Agriculture	2%	1%	1%	0%	1%	2%	0%	1%	0%	1%
SME	87%	25%	25%	7%	31%	84%	3%	39%	5%	37%
<i>Rural</i>	67%	19%	19%	5%	24%	1%	0%	1%	0%	1%
<i>Urban</i>	20%	6%	6%	2%	7%	83%	3%	38%	5%	37%
Med., Large Enterprise	3%	1%	1%	0%	1%	7%	0%	3%	0%	3%
Government	8%	2%	2%	1%	3%	6%	0%	3%	0%	3%

The urban linkages are slightly different. Although urban residents have a similar spending pattern to rural residents, their earnings pattern is skewed away from agriculture and towards SMEs and government. Taken together, this means the SME-to-SME link (39 percent) and the government to SME link (37 percent) are even stronger in urban areas than in rural areas. All other linkages are trivial.

4.4 Summary

The first set of hypotheses was that rural households rely on agricultural incomes and spend on small local businesses; it was also proposed that urban households are less dependent on agriculture for their incomes and less likely to spend in local small businesses.

The survey results suggest that the agricultural sector provides a modest amount (28 percent) of income to rural households. However, those households, in turn, do buy a tremendous amount of their goods and services from SMEs, most but not all of which is in rural SMEs. Taking income and expenditures together, 19 percent of all demand generated in rural areas is represented by the link between agricultural incomes and rural SMEs. This is modestly behind the 24 percent share from the government-to-rural SME link and on par with the 19 percent share from the SME-to-rural SME link. The first part of the hypothesis is thus true, but slightly weaker than anticipated.

The results do confirm that urban households are (far) less dependent on agriculture and (slightly) less likely to spend in local (urban) SMEs than rural households. The impact of agricultural income on SME demand in urban areas is therefore negligible as compared to the

(...continued)

employment are spent in SMEs. It does not refer to government procurement of SME goods and services.

role played by the agricultural sector in rural areas. Instead, urban SMEs must depend on demand generated by incomes from other SMEs (39 percent) and from government (37 percent). As urban SMEs account for 50 percent of all jobs in urban areas (Table 5), maintaining demand for their products must remain an important element of labor force policies.

Overall, how important are incomes in the agricultural sector for job creation? The direct impact on demand of incomes earned from agriculture is considerably smaller than of incomes earned in SMEs and government. But neither of these latter sources of income is robust. Where does the SME income come from in the first place? As long as there is something outside the SME sector growing, then the SME to SME link gets activated. That growth must come either from government, large businesses or agriculture. As Egypt continues macroeconomic reforms, government employment should diminish sharply, eroding its direct and indirect impact on demand for SME products. The private sector role in the economy must expand. The role of the medium and large enterprises in generating employment will be fairly minor. Such businesses are a very small piece of the economy, and they are often too capital intensive to generate many jobs. Thus the growth of agricultural incomes and demand will be critical to filling the void and creating new jobs.

5. CHARACTERISTICS OF SMES

As illustrated in the literature review, small and micro enterprises have been recognized as an important source of employment and income for rural populations in developing countries. To gain a better understanding of the SME sector in rural Egypt, we present the main characteristics of these enterprises based on our research results (unless otherwise noted).

5.1 SME Types, Prevalence and Ownership

In order to capture all SMEs in operation, a distinction was made between established SMEs and HBEs (home-based enterprises). In the literature, an establishment is defined as some fixed facility used regularly for an economic activity, whether it is an independent building or part of a building (Arab Republic of Egypt, CAPMAS 1998). Thus by established SMEs (E-SMEs) we refer to enterprises with a fixed premises used regularly for economic activity. HBEs, on the other hand, lack such premises and most likely are located within the household. Neither definition is equated directly with the formality or legality of the enterprises.

Table 10: SME Characteristics

	Rural			Urban		
	Total	E-SME	HBE	Total	E-SME	HBE
Number of SMEs (millions)	2	0.8	1.3	3.4	1.5	1.9
Share of owned SMEs	100%	42%	58%	100%	45%	55%
% Female owned	19%	13%	22%	19%	18%	30%
Avg. number of workers	1.62	2.0	1.2	1.79	2.4	1.2
Distribution of workers	100%	100%	100%	100%	100%	100%
1-5 workers	98%	96%	100%	96%	95%	99%
6-15 workers	2%	4%	0%	4%	5%	1%
Avg. Age of Enterp. (yrs)	10.6	10.7	10.5	13	14.4	11.7

When weighted to represent their corresponding geographical location, the survey data suggest there may be as many as 2 million SMEs in rural areas and as many as 3.4 million in the urban areas of Upper and Lower Egypt. HBEs are the more numerous, making up between 58 percent and 55 percent of all SMEs in rural and urban areas, respectively. There are thus 1.4 HBEs to every one E-SME in rural Egypt.

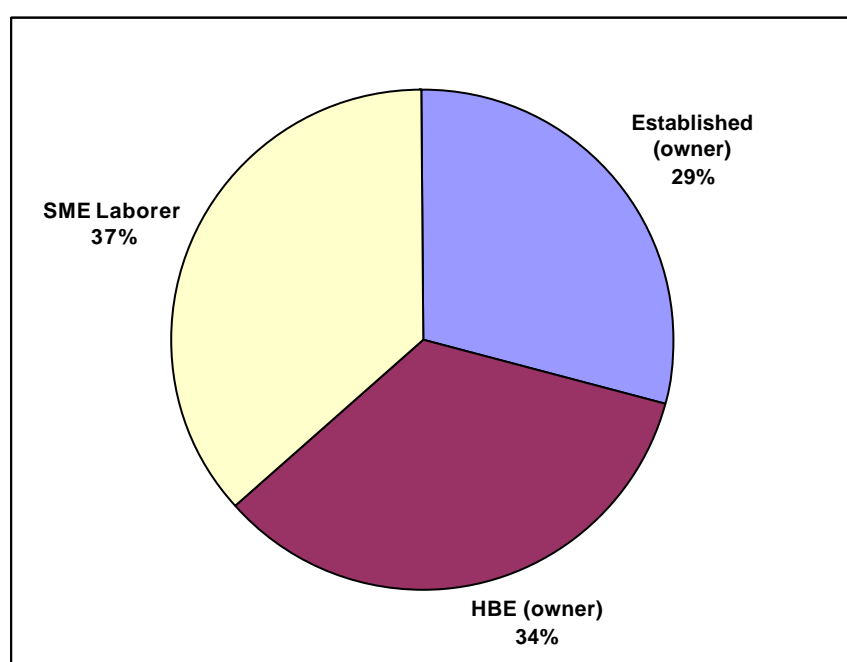
SMEs are extremely small. Survey results show that most SMEs are tiny enterprises, with an average of 1.6 workers for rural SMEs and 1.75 for urban. E-SMEs are larger than HBEs, regardless of location. In part the lower average size for HBEs comes from their tendency to be staffed solely with an owner-operator. While 37 percent of E-SMEs involve only one person (owner), rural HBEs have a much higher proportion (59 percent) of owner/worker. Urban SMEs tended to be about 60 percent owners only. Even SMEs that have multiple workers still fall in the micro category (1-5 workers). Only 3 percent of all SMEs are small enterprises (6-15

workers), and these are almost entirely E-SMEs. Other studies suggest that the micro category (one person establishments) constitutes slightly more than half of all enterprises. In fact one-person enterprises constitute almost half the whole SME universe in Egypt (Arab Republic of Egypt, 1996). Given the predominance of one-person (owner/operator) enterprises, it is clear that the capacity of small enterprises to generate labor through expansion is limited, especially among HBEs, as they represent a survival strategy for poor households.

Urban SMEs are on average older than rural ones, especially among E-SMEs (Table 10). This is consistent with Mead and Liedholm's findings on the higher survival and growth chances of urban SMEs in comparison with rural ones (1998). (Note that the figures in Table 10 do not reflect the high rate of SME failure, but only those who were still surviving at the time of the interviews.)

Consistent with the prevalence of one-person establishments, most rural SME workers work for themselves (63 percent), split between HBE owners and E-SME owners, with the former accounting for a slightly bigger share (Figure 6). Thus most SME employees are owners and the home-based enterprises (HBEs), which are usually fairly invisible in official statistics, make up a sizeable share of the whole in terms of both enterprises and jobs.

Figure 6: Allocation of Rural SME Labor among Established Owners, HBE Owners and SME Laborers



Founding the enterprise is the common practice among E-SMEs owners; in rural areas 85 percent were founded by the current owner, whereas in urban areas, 74 percent had founded their own business; thus 13 percent of E-SMEs in rural areas and 26 percent in urban areas were inherited. The general tendency to found a new SME rather than join or inherit an existing one suggests that SMEs may grow in number rather than in size.

5.2 SME Labor

About one-fifth of the SME labor force is female. Women are especially prevalent in rural HBEs (30 percent), suggesting that women may be concentrated in the low-skill level activities associated with the low levels of education discussed below in relation to Figure 7.

More than 60 percent of rural SMEs were owned and operated single-handedly by the same person. This finding is consistent with the 50 percent **estimate of El-Mahdy and Orman (2000)**. **Our** research shows that out of the established SME total labor force, only 2.6 percent are seasonal workers. Seasonal workers are more concentrated than regular workers in the 16-30 year age group and typically unrelated to the owner. There was no participation of females in the seasonal workforce at all (Table 11). One possible explanation is that the tasks for which season labor is usually hired are more physical in nature than those required from regular workers (hence the focus on a male and young workforce).

Data on educational attainment was only collected for E-SMEs. In general, the workforce in rural E-SMEs has less education than the urban E-SME workforce. Although most E-SME labor in both locations had an intermediate education (*i.e.*, between secondary school and university education), 26 percent of the rural workforce in E-SMEs is illiterate compared to 10 percent of the workforce of their urban counterparts. Overall, rural E-SMEs seem to be at a disadvantage when it comes to human capital (Figure 7).

5.3 SME Inputs

Most SMEs use inputs other than just labor for their operations. About half of all purchased inputs used by SMEs come from the immediate locality (*i.e.*, the village or city where they are located) and this is the same for rural and urban SMEs (Table 12). Forty six percent of rural SMEs and 49 percent of urban SMEs obtain most of their inputs from within their localities; these shares rise to 55 and 56 percent, respectively, when taken as the share of those who actually purchased inputs. Seldom do SME owners purchase inputs from a village outside their own location, but turn rather to other cities or metropolitan areas when they are unable to meet their needs locally. Urban SMEs are somewhat more likely to look for inputs in another city.

E-SMEs and HBEs have very different patterns for purchasing inputs. All E-SMEs purchased some inputs, whereas about 40 percent of HBEs did not. When HBEs do purchase inputs, they are more likely to rely on their local markets than are E-SMEs (rural HBEs in their village, urban HBEs in their city).

Table 11: SME Labor Force Characteristics by Location

	Rural			Urban		
	Total	E-SME	HBE	Total	E-SME	HBE
Avg. Age Regular Workers						
< 12	0	0	1	1	1	0
(12-15)	4	4	3	2	1	4
(16-30)	44	46	34	45	46	41
(31-60)	51	47	60	49	46	53
> 60	3	4	2	4	3	3
Relation of Regular Workers to Owner						
Owner	62	50	82	52	41	73
Immediate	16	21	8	13	15	9
Other Relative	5	6	2	3	4	1
No Relation	17	23	8	32	39	18
Relation of Seasonal Workers to Owner						
Son/Daughter		3	n/a		0	n/a
Brother/Sister		14	n/a		3	n/a
Other Relative		17	n/a		28	n/a
No Relation		66	n/a		69	n/a

Figure 7: Education of Regular Workers (E-SMEs) by Location (%)

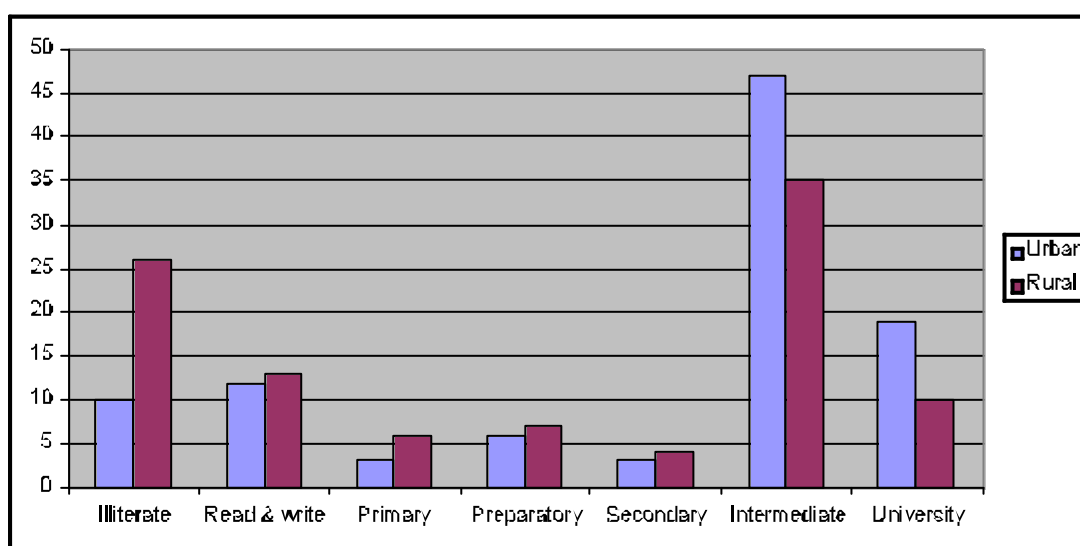


Table 12: Origin of Inputs by Location

	Location	Original Data		Adjusted to reflect only those who purchased inputs	
		Rural	Urban	Rural	Urban
Total	Same village/city	46%	48%	55%	56%
	Another village	4%	1%	5%	1%
	Another city	17%	28%	20%	33%
	Metro cities	17%	9%	20%	10%
	Did not need inputs	16%	13%	n.a.	n.a.
E-SME	Same village/city	50%	47%	50%	47%
	Another village	4%	1%	4%	1%
	Another city	20%	40%	20%	40%
	Metro cities	25%	12%	25%	12%
	Did not need inputs	0%	0%	n.a.	n.a.
HBE	Same village/city	39%	51%	67%	86%
	Another village	4%	0%	7%	0%
	Another city	12%	4%	21%	7%
	Metro cities	3%	4%	5%	7%
	Did not need inputs	42%	41%	n.a.	n.a.

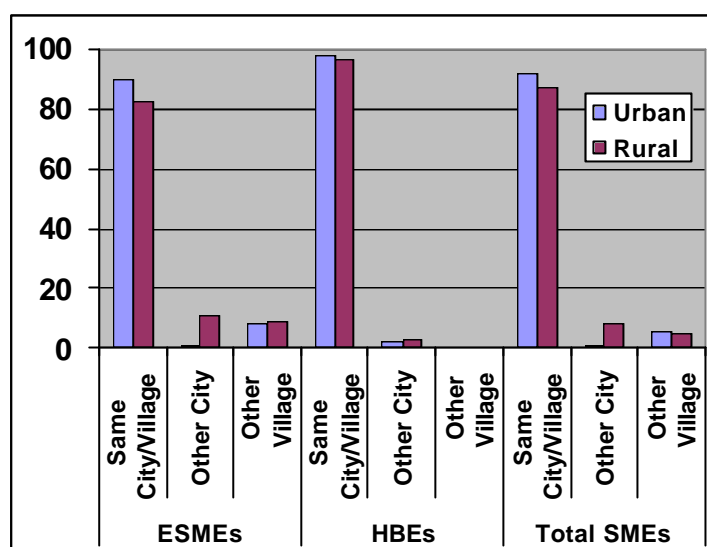
When considering origin of labor, the vast majority of rural and urban SMEs are highly dependent on their localities to hire workers (Figure 8). The trend is slightly more pronounced among urban – rather than rural – SMEs. A slightly higher proportion of rural SMEs hire workers from other cities and villages. One possible reason is that the urban labor market is more varied and may be more able to meet the labor needs of SMEs.

5.4 SME Customers

The first hypothesis developed in this study proposes that a large share of agricultural income is spent in the rural sector and that a large proportion of that goes to buy goods and services produced by SMEs. The analysis in Section 4.2.2 showed that households spend a great portion of their budgets on their local SMEs. This strong link is confirmed by results from the SME surveys that show the importance to the customer base of local clients, in general, and “farmer” clients in particular.²⁴

²⁴ Note that the Arabic word for “farmer” used in this question (fellah) is taken in common parlance to refer to residents of rural areas, and thus may overstate the preponderance of actual farmers (people who earn more than half their income from agricultural activities) in the client base. The response also indicates the SME owner’s best estimation of his or her client’s background. The estimates in Table 8 provide a more accurate gauge of the importance of agricultural incomes to SME demand.

Figure 8: Origin of Workers by Location (%)



In general, most rural and urban SMEs draw a large amount of their demand from local residents. Rural SMEs depend primarily on the village for most (16 percent) or all (75 percent) of their customers (Table 13). Urban SMEs sell to a somewhat broader base and depend on their city for most (31 percent) or all (17 percent) of their customers.

A large proportion of customers from villages are found in rural SMEs (75 percent), compared to 5 percent in urban SMEs (Table 13). The reverse holds true when examining the case of customers from cities. The bulk of the customers for the vast majority of rural SMEs (91 percent) come from villages with around three-quarters of these enterprises trading exclusively within their localities. Urban SMEs are also dependent on their local market (in this case the city) but to a much lesser extent than rural SMEs. Half of urban enterprises depend on customers from cities.

It is evident that the vast majority of urban and rural SMEs sold most of their output within their localities, which means that they are largely confined to their local markets. SMEs, especially in rural areas, are highly dependent on local demand.

5.4.1 Farmer Customers

Rural SMEs, which have a larger customer-base in the villages, also have a higher proportion of sales to farmers (Table 14), while urban SMEs depend to a much lesser extent on farmers: 64 percent of rural SMEs identified farmers as all or most of their clients as compared with 16 percent for urban SMEs. There are also significant differences between the two types of SMEs. HBEs are less dependent on farmers than E-SMEs in both rural and urban areas.

Table 13: Customer Base by Location

		Rural Location		Urban Location	
		% Customers from Villages	% Customers from Cities	% Customers from Villages	% Customers from Cities
Total	All	75	2	5	17
	Most	16	9	13	31
	Half	3	4	7	5
	Quarter	4	6	27	10
	Few/little	2	15	25	32
	None	1	65	22	4
E-SME	All	73	1	6	26
	Most	18	4	15	47
	Half	3	2	7	5
	Quarter	3	3	24	3
	Few/little	2	16	22	13
	None	1	74	26	6
HBE	All	78	12	3	0
	Most	11	40	1	1
	Half	4	12	10	5
	Quarter	6	27	42	24
	Few/little	1	10	44	69

5.4.2 Methods of Selling

By definition, HBEs and E-SMEs sell their goods and services in different ways. As they lacked fixed premises to run their business, owners of HBEs adopted alternative methods of selling. Most HBEs (41 percent) sell their products from within their homes. Marketplace²⁵ attracts some owners of these enterprises (32 percent), while 27 percent resort to mobile street vending.

One of the main features of SMEs, especially those located within the household, is to withdraw a share of the enterprise's production for family consumption. Around 36 percent of the HBEs withdrew a portion of their products for household consumption (Table 15). Most HBEs took out only a small proportion of their products for family consumption, whereas 40 percent of enterprises withdrew a bigger share that in some cases reached one-half. It is worth noting that this proportion is higher among rural HBEs than their urban counterparts.

²⁵ By marketplace we mean selling in the market with no fixed premise and that the seller does not go to customers in their homes. Sellers in this case lay their goods/products on the streets around the marketplace.

Table 14: The Importance of Farmers to the SME Customer Base
(percent)

		Rural	Urban
Total	All	27	2
	Most	37	14
	Half	17	10
	Quarter	9	27
	Few/little	8	38
	None	2	9
E-SME	All	29	2
	Most	41	17
	Half	12	8
	Quarter	8	25
	Few/little	7	37
	None	3	11
HBE	All	25	1
	Most	29	2
	Half	26	20
	Quarter	10	35
	Few/little	9	41

Table 15: Proportion of Goods Withdrawn for Family Use by Location
(Percent)

HBEs	Rural	Urban
All	2	0
Three-Quarters	4	0
Half	10	1
Quarter	41	29
Few or Little	43	70

5.5 Economic Activities of SMEs

There are important differences among SMEs in terms of the nature of their economic activity. First, a large proportion of SMEs (64 percent of E-SMEs and 46 percent of HBEs) are engaged in trade. SMEs working in the manufacturing sector are very few (Table 16). E-SMEs are particularly trade-oriented; while trade is important for HBEs (46 percent), a virtually the same share of HBEs is engaged in the services sector (47 percent).

Although the data are only indicative, the service sector stands out from the trade and manufacturing sector in key ways.²⁶ E-SME enterprises in the service sector are 50 percent

²⁶ The analyses in this section are based on a combined total of urban and rural SMEs that for reasons of irregularities in weighting, does not accurately reflect the total for Upper and Lower Egypt. Nevertheless, we present these results because we believe the error introduced by statistical

(continued...)

bigger than those in the other two sectors, and 25 percent bigger among HBEs. The workforce of E-SME service enterprises is slightly younger and not particularly female oriented. Consistent with their larger size, service SMEs are more likely to add 1 to 2 workers, more likely to report full-employment and more likely to employ non-relatives than the workforce for the other SME

Table 16: Characteristics of SMEs by Sector of Activity

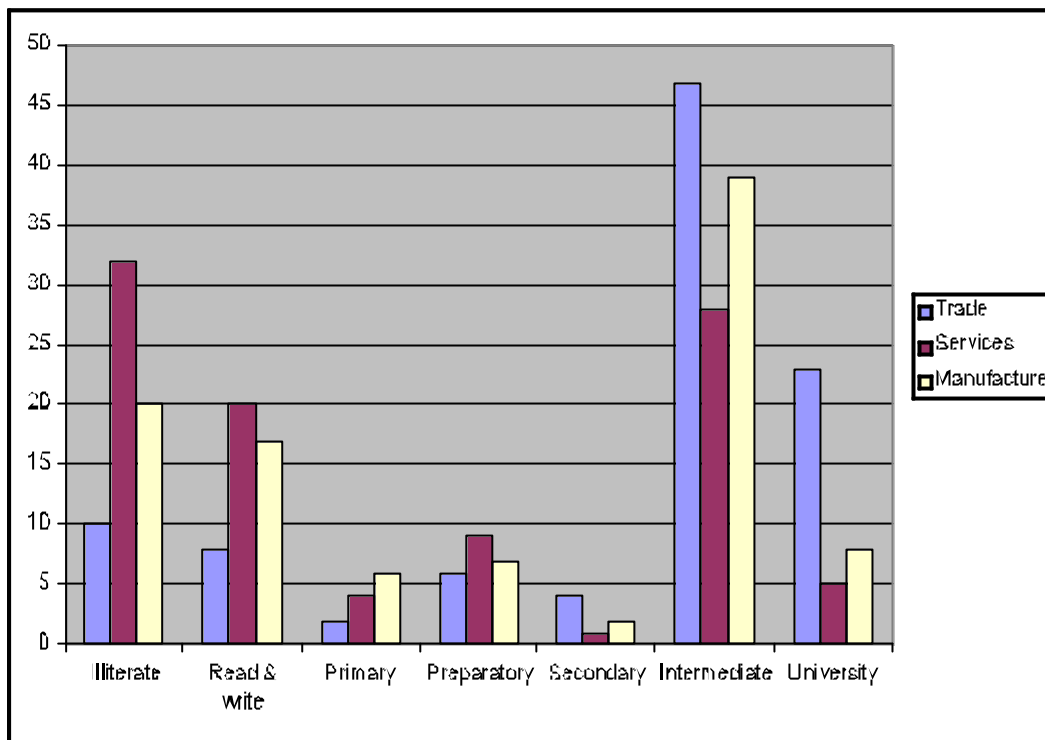
	E-SME			HBE		
	Trade	Serv.	Man.	Trade	Serv.	Man.
Type of SME (percent)	64.2	26.4	9.4	45.7	46.9	7.4
Average number of workers	2	3.3	2.2	1.2	1.5	1.2
Average age of SME (years)	16.5	11.4	12.8	10.6	11.2	20
Percent female-owned	10.6	6.4	5.3	33	22.9	13.4
Distribution of age of regular workers (percent)						
< 12	1	0	0	0	0	0
(12-15)	0	8	4	5	3	0
(16-30)	46	49	47	29	47	29
(31-60)	49	43	45	61	49	68
> 60	5	0	4	4	1	3
Distribution of relation of regular workers to owner (percent)						
Owner	47	34	41	87	67	83
Immediate relative	18	12	19	7	9	7
Other relative	4	5	6	0	2	0
No relation	31	49	34	6	22	9

sectors. The quality of those jobs seems somewhat lower, however, than in trade or manufacturing; in terms of education, service SMEs are staffed with few workers in the intermediate level and relatively more in the lower, semi-literate categories. Services have a higher tendency to hire from the younger age brackets (i.e., less than 30 years old). They are also somewhat more likely to extract goods from the business for family use. Looking across activities, services are mostly self-contained in villages, as 45 percent of the enterprises have all their customers from villages.

(...continued)

inaccuracies are outweighed by the advantages of identifying the sectoral heterogeneity underlying the data.

Figure 9: Education of E-SME Regular Workers by Sector (%)



5.6 Summary

This study shows that there is substantial heterogeneity among SMEs. First, there are many very small home-based businesses that typically lack formal legal status and are thus almost “invisible” in an official sense. In many ways, these HBEs have a different profile from their established counterparts:

- **HBEs:** Most are tiny, even smaller than E-SMEs. They are likely to be operated by one person (owner/worker), and at least twice as likely to be female headed as their E-SME counterparts. HBEs are often focused on service delivery, although trade is also very important to the rural ones. Approximately 80 percent of the workers are men, and the use of seasonal labor is negligible. Most sell their products from home, followed by the marketplace, and street vending. Their client base is overwhelming local, although more so for rural HBEs than urban ones. In rural areas (where there are agricultural activities), 54 percent of the respondents said that farmers make up most or all of HBE clients, as compared with the much greater importance (80 percent) of farmers for rural E-SMEs. Rural HBEs are more likely to consume enterprise outputs for family consumption than their urban counterparts.
- **E-SMEs:** The prototypical E-SME is likely to be engaged in trading, and employing about two regular workers; one – a relative - around 23 years old, with an intermediate degree, and the other around 45 and at best semi-literate. As with HBEs, approximately 80 percent of the workers are men and the use of seasonal labor is negligible. Rural E-SMEs are very dependent on their village for their markets (91 percent local versus 8 percent from a city or metropolitan area), whereas urban E-SMEs are more dependent

on their city, although to a lesser extent (63 percent local versus 37 percent in villages or metropolitan areas). Although farmers are only a minor slice of the client base for urban E-SMEs, they are a very major part of the client base for rural E-SMEs.

Secondly, there are some important differences between rural and urban SMEs. Although both locations have about the same mix of E-SMES and HBEs, rural SMEs tend to be smaller and younger than urban SMEs. This may be due to the lower survival rate for rural SMEs noted by Mead and Liedholm (1998). Although there are lower rates of inheriting the SME in rural areas, the reliance on family members for labor is much greater than in urban areas. The SME labor force is younger and less educated (more illiterate) in rural areas.

Rural SMEs are somewhat more “contained” than urban SMEs. Both get approximately half of their inputs and over 80 percent of their labor from their locality (i.e., their respective village or city), but rural SMEs are much more dependent on their locality for their client base than urban SMEs. Ninety-one percent of rural SMEs owners relied on their village for all or most of their customers, while the corresponding figure for urban SMEs owners was only 48 percent. Rural SMEs are far more likely to identify all or most of their customers as farmers (44 versus 15 percent for urban). They are also somewhat more likely to dip into their own production for home consumption.

Thirdly, SMEs differ by sector of economic activity. For example, trade is the largest sector in terms of the number of enterprises. One explanation is the relatively low capitalization level required, hence the ease of market entry. On the other hand, SMEs engaged in services tend to have the largest enterprise size in terms of both labor and capital. As the next chapter will show, services also appear to be more dynamic in terms of growth in both labor and capital.

Finally, the results of this study show that SMEs exhibit a high degree of self-containment in the local economy in terms of customers, input and labor. This is in contrast to other studies (e.g. Lanjouw and Lanjouw 1995) that showed that rural SMEs often do not only depend on local demand or inputs but are forced to purchase inputs outside their localities and in some cases by importing from other countries. Similarly, these studies show that at least part of rural expenditure goes to goods imported from outside the region.

The findings therefore strongly support the second hypothesis that SMEs constitute a large sector that is highly dependent on the local economy for their demand, labor and other inputs. The findings give lesser support to the proposal that this economic isolation or *containment* is stronger in rural communities than in urban ones. The implication is that changes in demand for SME products will be felt first and foremost in the local community. Thus it is possible for an increase in agricultural incomes to have a substantial impact on demand for local SME products and for the SMEs, in response, to demand more labor and other inputs from the local economy. The issues involved in how SMEs may in fact respond to the increased demand are treated in the following section.

6. GROWTH PATTERNS AND DYNAMICS

We have established that local communities are the major source of demand for the large SME sector in Egypt and that this relationship is even stronger in rural areas than in urban ones. We also showed that agriculture incomes make up a substantial portion (although not the majority) of that local demand for SME output in rural but not urban areas. If indeed rural incomes were to grow, thus stimulating additional demand for SME goods and services rises, how would SMEs respond? To what extent do they exploit excess capacity, and when do they expand?

There are many possible means of assessing SME growth: changes in labor force, capital investments, sales, output, or assets. According to Mead and Liedholm (1998), most analysts prefer measures of labor force growth, since these do not require complicated efforts at deflation. In conditions of high underemployment (as with most Egyptian SMEs), a modest growth in sales or output may reflect a fuller use of existing capacity rather than an expansion of that capacity. In this report, we examine firm growth by adding capital, or expanding their workforce, or both.

This chapter examines how SMEs respond to increased demand in terms of adding both capital and labor, with a particular focus on how such expansion might generate jobs. The issue of expanding capacity was approached in several ways in the SME surveys. Respondents answered in general terms how they respond to actual seasonal peaks in demand; and they were asked how much labor and capital they had added over the life of the firm. In addition, data on labor intensities (labor/capital ratios) for the different types of SMEs are presented.

6.1 SME Capital

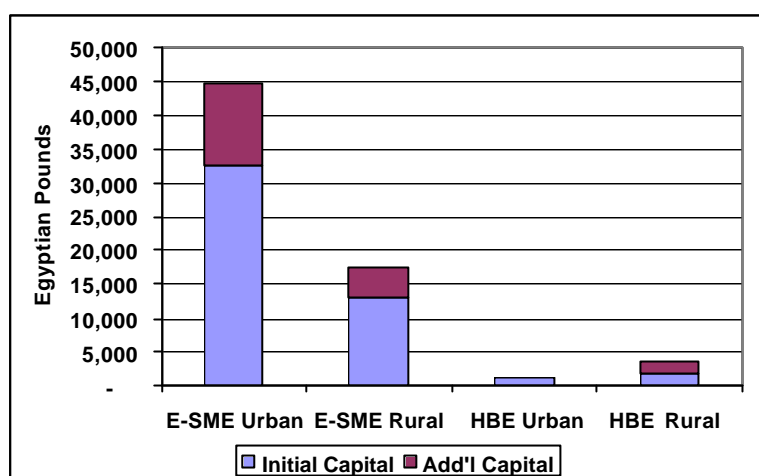
For the purpose of this study, we analyze three kinds of capital:

- Initial capital: the capital invested by the entrepreneur upon establishing his/her enterprise;
- Additional capital: additional capital investments made by the entrepreneur in the course of the enterprise life; and
- Total capital: enterprise net worth, adjusted to reflect present value.

6.1.1 SME Capital by Rural/Urban Location

Most SMEs have extremely small total capital assets. Established SMEs operating in urban areas have the greatest capital investment (nearly LE 45,000 or \$10,664). Their rural E-SME counterparts have about a third of that amount, while HBEs (whether urban or rural) have very minimal amounts of capital. Figure 10 illustrates how total capital is mostly comprised of initial capital invested in the SME.

Figure 10: Initial and Additional SME Capital by Location



The majority of SMEs did not add capital since their establishment (Table 17). This trend is more pronounced among HBEs versus establishments, where 85 percent of the former did not add any capital at all. Urban E-SMEs are much more likely to add capital than rural establishments.

Table 17: SMEs Adding Capital Since Establishment, by Location

SME	Added?	Location	
		Rural	Urban
E-SMEs	No	65	54
	Yes	35	46
HBEs	No	85	85
	Yes	15	15
Total SMEs	No	73	64
	Yes	27	36

Taking into consideration the varying ages of enterprises by type and location, the annualized increase in capital ranges from one to three percent (Table 18).²⁷ The E-SMEs grew by about one- third over its average life-to-date. HBEs grew slower than E-SMEs, with rural HBEs growing twice as fast as urban ones.

For the most part, these small sums of capital came from personal savings or family members. Consistent with other findings, only a small minority obtained a bank loan for their initial capital (9 percent of urban and 7 percent of rural SMEs, all of whom were E-SMEs).²⁸ However, bank

²⁷ (Total Capital – Initial Capital) /Total Capital/Age of Enterprise.

²⁸ See for example El-Mahdy and Osman (2000) where in more than 85% of the cases, savings, or self-finance constituted the primary source of initial capital. The difference in figures can be attributed to her coverage of metropolitan areas where bank coverage is more extensive, and where SMEs may be better off.

loans were a more visible source of additional capitalization, whereby the above percentages jumped to 19 percent in the case of urban E-SMEs and 15 percent in the case of rural ones.

Table 18: Initial, Additional and Total SME Capital for SMEs by Location

Location	Capital Measure	E-SMEs	HBEs
Urban	Initial Capital (LE)	32415	1,288
	Additional Capital (LE)	12526	118
	Total Capital (LE)	44941	1,406
	<i>Age of Enterprise (years)</i>	14.4	11.7
	Annualized Additional Capital (LE)	3%	1%
Rural	Initial Capital (LE)	13090	1,730
	Additional Capital (LE)	4293	422
	Total Capital (LE)	17383	2,152
	<i>Age of Enterprise (years)</i>	10.7	10.5
	Annualized Additional Capital (LE)	3%	2%

6.1.2 SME Capital by Sector

Table 19 illustrates many of the same concepts of capitalization comparing across SME sectors. For established SMEs, those specializing in services had by far the highest average total capital (LE 40,599 or \$9,621), followed by trade, followed by manufacturing.²⁹ Again, HBEs have very little capital, regardless of sector, although there is a slight tendency for the very few manufacturing HBEs to have more capital than the others. SMEs operating in the trading sector were more likely to obtain a bank loan for their additional capital (24 percent) compared to only 12 percent in services and 9 percent in manufacturing.

²⁹ The sectoral data are composed of averages of information from the underlying urban and rural populations. As the sample methodology was focused on rural populations, generalizations based on combining urban and rural populations must necessarily be taken with caution and treated as possible topics for further exploration.

Table 19: Initial, Additional and Total SME Capital by Sector

SME Sector	Capital Measure	E-SMEs	HBEs
Trade	Initial Capital (LE)	17,651	1,598
	Additional Capital (LE)	7,439	199
	Total Capital (LE)	25090	1,797
	<i>Age of Enterprise (years)</i>	11.8	8.8
	Annualized Additional Capital (LE)	4%	1%
Services	Initial Capital (LE)	40,599	1,554
	Additional Capital (LE)	9,240	173
	Total Capital (LE)	49839	1,727
	<i>Age of Enterprise (years)</i>	9.0	12.4
	Annualized Additional Capital (LE)	3%	1%
Manufacturing	Initial Capital (LE)	9,975	2,129
	Additional Capital (LE)	3,682	2,695
	Total Capital (LE)	13657	4,824
	<i>Age of Enterprise (years)</i>	11.9	15.4
	Annualized Additional Capital (LE)	3%	8%

6.2 Labor Force Dynamics

SMEs are, by definition, small. Those in rural Egypt are tiny and do not hire seasonal labor. What potential do they have for expansion and job creation? In this section, we look at labor force dynamics for the surveyed businesses, their opinions about how they might respond to increased demand, and the various intervening factors that serve to attenuate those responses.

6.2.1 Actual Increases in SME Labor

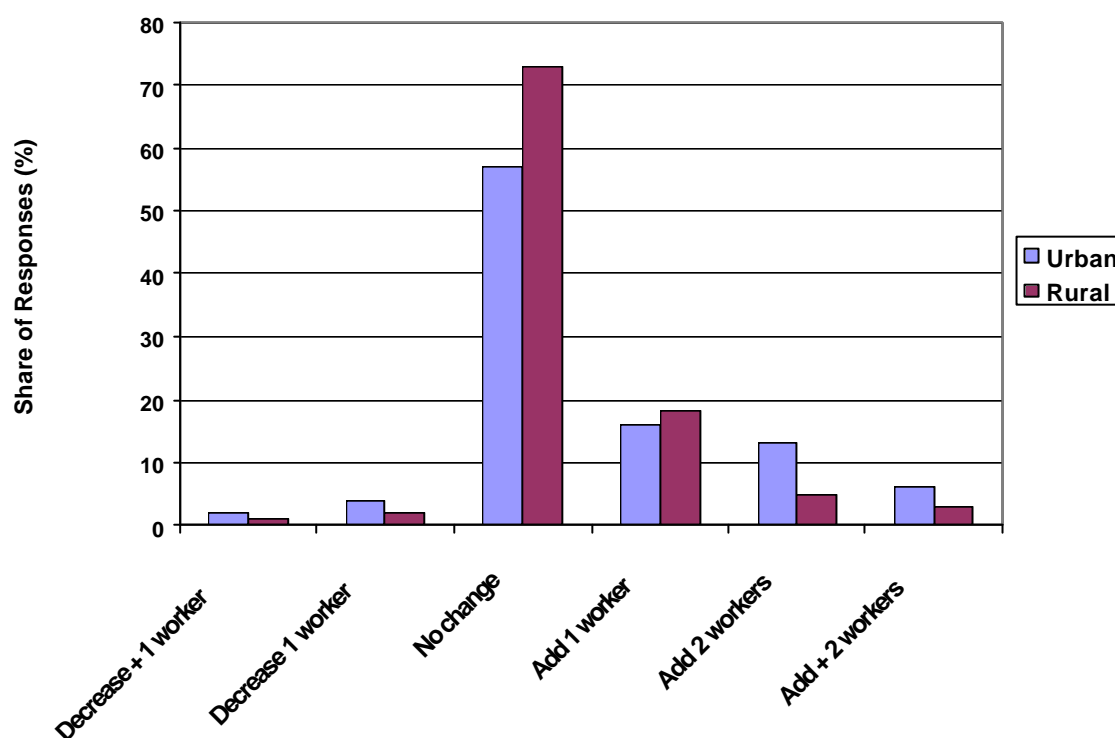
It is difficult to study the potential for SMEs to generate jobs by using information on labor force dynamics for existing SMEs. As shown in previous sections, most SMEs are more micro than small, and a great number consist of only one worker/owner. Such a demographic structure gives little scope for exploring the impact of growth. Rather than monitor the labor force of individual SMEs (which may not change much over time), one would need to monitor the number of SMEs in the communities over time.

Ideally information would also be collected on indicators of actual demand at the SME level. The evidence suggests that there has been only a modest increase in aggregate demand over the last decade. The average SME sampled was approximately 10 years old. Over the 1990-2000 decade, GDP per capita grew 2.6 percent per year. This represented a mild slowdown from the 1980s, during which time GDP per capita increased at 2.8 percent annually. Although these figures are highly aggregated and ignore the very real issues of income distribution between economic classes, they suggest that there has been little opportunity to test SME responsiveness to high levels of sustained demand in real life. This is the value of the modeling effort by Mellor and Ranade, who simulate conditions of high demand (2002).

Results from the current survey indicate that throughout their lives, 73 percent of rural E-SMEs hired no additional workers, compared to almost 60% of urban ones (Figure 11). Of the 26 percent of rural E-SMEs that added workers, most added a single worker over their lives. Urban E-SMEs were more likely to add workers (36%), mostly by adding more than one worker throughout their lives. As for HBEs, with 82 percent of HBE workers also being the owners of the enterprises, and with an average enterprise size of 1.2 workers per enterprise, the contribution of HBEs to employment through expansion is even more marginal. Our prototypical HBE (see section 5.6) is operated by one owner/worker.

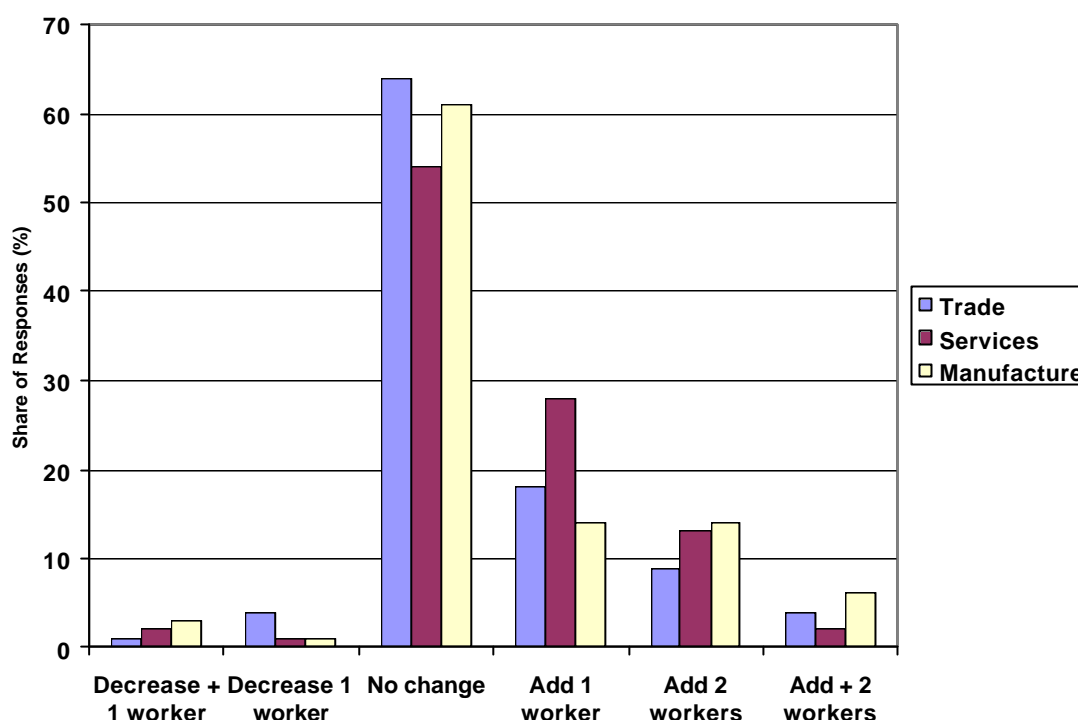
Our findings seem to be in line with international experience. As stated before (section 2.4.5), international experience suggests that three-fourths of the jobs created by this sector are generated through start-ups. Seventy-five percent of enterprises either witness no change or actually lose labor, with the remaining 25 percent of enterprises that do grow adding only a small number of workers.

Figure 11: Labor Dynamics by Location (E-SMEs)



The differences between the different types of E-SMEs are less marked (Figure 12). The services sector is somewhat more dynamic (43 percent adding workers) than manufacturing (34 percent adding workers), or trade (31 percent).

Figure 12: Labor Dynamics by Sector (E-SMEs)



6.2.2 Anticipated Responses to Increased Demand

SME owners were asked about their usual behavior when they experience an increase in demand. They were asked to answer yes or no to each of the following options: add working hours, work harder and add workers.

The general preference of the entire SME sector (establishments and non-establishments alike) is to work harder more than extending working hours or adding workers (Table 20).³⁰ This pattern prevails across the rural/urban divide as well as cutting across the sectors. Rural SMEs respond that they will work harder (58 percent), extend hours (34 percent) and add workers (8 percent). Urban SMEs are more responsive across the spectrum: they will work harder (64 percent), work longer (45 percent) and add workers (23 percent). Among the different sectors, services seem to have the highest potential for hiring additional workers (32 percent), compared to manufacturing (15 percent) or trade (14 percent).

³⁰ Note that the questions were structured so that SME owners could answer yes or no to each one independently. Thus the totals of “work harder”, “add working hours” and “add workers” do not sum to 100 percent. Nor are the responses intended to give a strict chronological sequence, although the share of respondents answering affirmatively does suggest a progression in responses.

Table 20: Response to Increased Demand by Location and Sector

(percent)

Percent	Type of SME	Location		Sector		
		Urban	Rural	Trade	Services	Manuf.
Work Harder	E-SMEs	50	43	44	62	50
	HBEs	93	90	89	93	92
	Total	64	58	55	84	51
Extend Working Hours	E-SMEs	40	31	35	55	34
	HBEs	54	40	41	55	71
	Total	45	34	37	55	35
Add Workers	E-SMEs	18	6	14	18	14
	HBEs	33	15	14	37	30
	Total	23	8	14	32	15

On average, HBEs are more responsive than E-SMEs to increases in demand in all response categories and across all locations and sectors (Table 20). Urban HBEs were more ready to add workers (33 percent) compared to their rural counterparts (15 percent). The results suggest that in the rare cases when HBEs add workers, urban enterprises rather than rural ones will primarily generate the increase in jobs.

6.3 Factors Influencing Job Creation

There are several factors influencing the propensity of SMEs to add workers.

6.3.1 Underemployment

The first is the high degree of underemployment of SME labor (Table 21). The majority of E-SME owners consider themselves to be underemployed, more so in rural (69 percent) than in urban areas (64 percent). This is consistent with the finding that most SMEs do not add workers over their lifetime. Service E-SMEs – which are the most likely to add an additional worker – report the lowest level of underemployment.

Table 21: Underemployment in E-SMEs by Location and Sector

(percent)

Percent	Location		Sector		
	Urban	Rural	Trade	Services	Manuf.
Underemployed	64	69	66	51	70
Fully Employed	36	31	34	49	30

6.3.2 Capital/Labor Ratios

A second factor related to the propensity of SMEs to add jobs is the intensity with which they use labor (Figure 13). The average rural SME has total capital per worker of LE 4,361 (\$1,033), while the average urban SME has LE 7,630 (\$1,808). Overall, therefore rural SMEs are 47 percent less capital-intensive than urban SMEs, which is consistent with the initial hypothesis that rural SMEs are more employment-intensive than urban ones. However, there are important

distinctions between the SME categories. While E-SMEs are more labor-intensive in rural areas, just the opposite is true for HBEs. Rural HBEs use twice as much capital per worker as urban HBEs.

Figure 14 shows that E-SMEs in the services sector are significantly more capital-intensive than those active in trade or manufacturing. Among HBEs however, the few manufacturing HBEs appear to be more capital-intensive than either HBEs in the services sector or the trade sector.

It was hypothesized that rural enterprises would be more labor-intensive than urban ones and thus add more labor in the face of increased demand. The results show that only the E-SMEs in rural SMEs are more labor-intensive; the HBEs are not. The results also show that although reported underemployment was about the same in rural and urban areas, rural SMEs were less likely to add workers, and when they did, tended to add fewer workers than urban SMEs. The breakdown in the relationship between labor intensity and the propensity to add workers also applies to E-SMEs in the services sector, which have the highest capital/labor ratios (Figure 14) and a somewhat greater propensity to add workers than trade or manufacturing SMEs.

Figure 13: Capital/Labor Ratio by Location

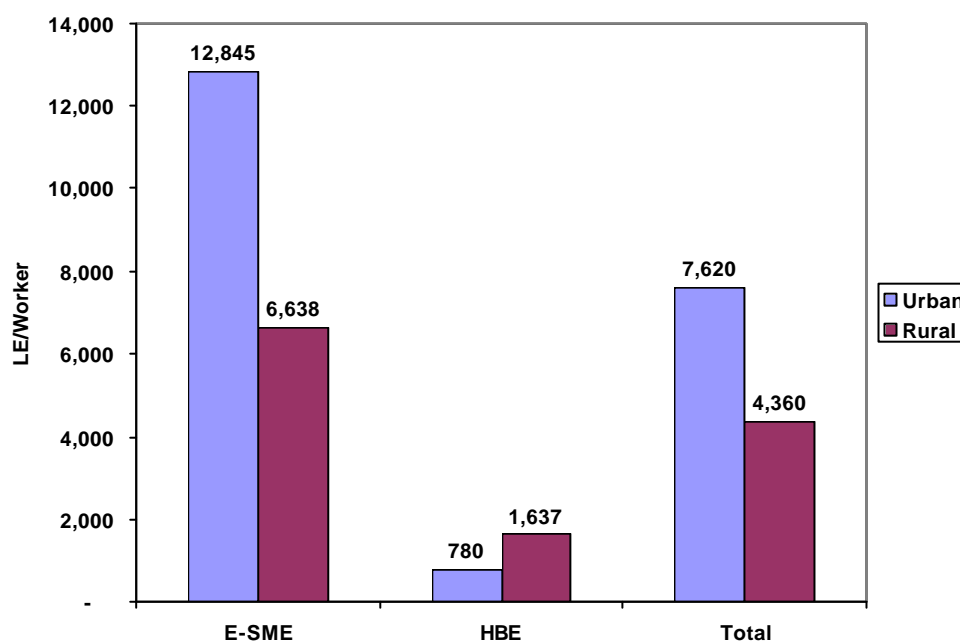
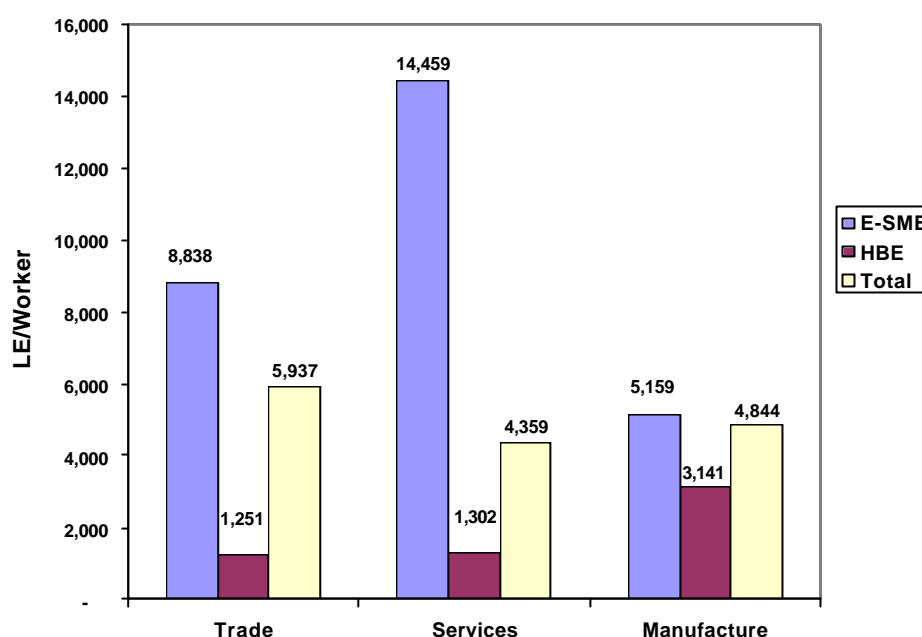


Figure 14: Capital/Labor Ratio by Sector



6.3.3 Constraints to SME Expansion

Another important factor limiting the ability of SMEs to add jobs are the host of constraints they face. Our analysis supports the hypothesis that demand is the most binding constraint facing SMEs on the general level (Table 22 and Table 23). The four most binding constraints identified by E-SMEs were in the following order: Low demand (49 percent of urban E-SMEs and 38 percent of rural ones), capital/liquid money (19 percent of urban E-SMEs and 22 percent of rural ones), high tax rates (13 percent of urban E-SMEs and 17 percent of rural ones), and legal and regulatory constraints (13 percent of urban E-SMEs and 11 percent of rural ones).

Services are the only exception to demand being the biggest constraint. In their case, access to capital/liquid money seems to be of higher importance. Trade and manufacturing E-SMEs listed demand as the biggest constraint they are facing, followed by access to capital/liquid money in the case of trade E-SMEs, and licensing and registration in the case of manufacturing E-SMEs.

HBEs display a similar pattern when it comes to ranking demand as their top constraint. The two most binding ones came as follows: Demand constraints (48 percent of urban E-SMEs and 53 percent of rural ones), time allocation (19 percent of urban E-SMEs and 10 percent of rural ones). This is an expected constraint, since a significant portion of owners has another job. In addition, especially in the case of women entrepreneurs, productive time is tightly interwoven with time devoted to household chores. This particular constraint appears to be most binding among service HBEs, compared to trade or manufacturing.

Table 22: Top Constraint for E-SMEs by Location and Sector

(percent)

Percent of E-SMEs Citing Problem as Top Constraint	Location		Sector		
	Urban	Rural	Trade	Services	Manuf.
Demand Constraints	49	36	49	23	46
Capital/liquid money	19	22	22	30	14
Registration	13	11	9	20	16
Employment	0	0	0	0	0
Goods or raw materials	1	3	1	2	3
High tax rates	13	17	15	14	14
Lack of experience	0	4	2	1	1
Others	3	7	3	10	6

Interestingly, 15 percent of urban HBEs had transportation listed as a binding constraint they are facing, compared to only 1 percent of rural HBEs. This, we believe, has to do with the higher self-containment expressed by rural enterprises, in addition to the nature of the economic activity of those urban HBEs, which the analysis revealed were all in the trade sector.

Table 23: Top Constraint for HBEs by Location and Sectors

(percent)

Top Constraint	Location		Sector		
	Urban	Rural	Trade	Services	Manuf.
Demand constraints	48	53	41	52	83
Lack of liquidity	1	6	5	1	3
Informality	3	1	2	3	0
Lack of capital	1	5	3	2	1
Transportation	16	1	25	0	0
Mentally or physically handicapped	1	1	3	0	0
Lack of Skilled Labor	0	0	0	0	0
Health problems	1	4	0	4	0
Time allocation	19	10	5	27	1
Lack/poor quality of merchandise	0	1	1	0	0
Limited enterprise revenue	3	8	4	5	6
N/A	6	10	11	4	7

The vast majority of manufacturing HBEs (83 percent) complained of demand constraints, followed by limited enterprise revenue (6 percent) and lack of liquidity (3 percent) and capital (1 percent). Trading HBEs on the other hand ranked their constraints starting with demand (41 percent), transportation (25 percent), in addition to lack of liquidity and time allocation (5 percent). Finally, HBEs in the services sector had the following ranking: demand (52 percent), time allocation (27 percent), limited enterprise revenue (5 percent) and health problems (4 percent).

6.3.4 Economic Cycles

SMEs are extremely small businesses. Although the definition includes enterprises up to 15 workers, the average size is 2.4 workers in urban areas and 2.0 in rural ones. The sector is likely to respond to increased demand not by growing into *larger* enterprises, but by growing *more* of them. Evidence of this is seen in Liedholm and Mead's work, where only 25 percent experience growth in their labor force, chiefly by adding a few workers. In addition, only one percent of enterprises that start with fewer than four workers end up graduating and hiring more than ten workers. In the specific case of Egypt, research has shown that net employment growth occurs in the case of 5 percent of SMEs (see the literature review, section 2.4.6.)

Liedholm and Mead have also noted that in times of economic growth and increased demand, SMEs tend to create jobs by expanding. Periods of economic downturn, on the other hand, were generally correlated with a tendency for new SME start-ups (i.e., replication). These periods force people to seek supplemental means of living through establishing new enterprises, the vast majority of which are one-person enterprises that are concentrated in activities with low economic return, and hence low income, compared to that generated from jobs created by expansion (Mead and Liedholm, 1998).

Other studies illustrate the sensitivity of labor markets to demand. A study of some 50 small enterprises (5-15 workers) from Greater Cairo demonstrated how entrepreneurs decreased staff working hours and pay due to stagnation in demand (El-Meehy forthcoming). In Damietta – a furniture manufacturing cluster in Egypt – demand stagnation, coupled with the introduction of the sales tax has reportedly led many furniture manufacturers to lay off labor (El-Meehy 2002). In these very small furniture manufacturers (predominantly microenterprises with an average enterprise size of 2.8 workers) the smallness of the enterprise – along with severe structural problems faced by the furniture industry - did not even allow entrepreneurs to reach a compromise whereby they can keep their employees on the payroll at reduced wage rates. These responses to demand shortfalls are likely to be mirrored when demand increases, again depending on the degree of undercapacity and interplay with other structural factors such as availability of credit. It follows naturally that when asked about the effect of an increase in demand, SME operators would respond first by working harder, increasing the length of the workday, before they reach the point beyond which they have to expand their labor force to be responsive to the market demand.

6.4 Summary

According to the third hypothesis, demand is thought to be the major constraint to SME expansion, and SMEs are hypothesized to be ready to respond to an increase in demand. SMEs are also presumed to be labor-intensive, and thus respond to increased demand by hiring local labor. Rural SMEs are hypothesized to be more employment-intensive (*i.e.*, use a greater proportion of labor to capital) than urban ones and thus more likely to add jobs when demand increases.

The results suggest that these effects may not be as strong as predicted:

- Yes, demand is a major constraint to SME expansion. Aggregate demand has been growing slowly, and the majority of both E-SME and HBE owners report the shortage of demand to be their most binding constraint.

- It is unclear the extent to which SMEs are ready to respond to an increase in demand. On one hand, many E-SMEs are concerned about capital constraints, while HBEs are concerned about a shortage of transportation and time. There is minimal evidence of seasonal use of labor and considerable excess capacity. When asked how they would respond to increased demand, most SME owners exhibit caution, preferring to work harder and extend hours before adding workers. And in practice, most SMEs did not add any labor over their life spans. On the other hand, about a third of all SMEs did add labor and greatly increased their average size (because they started out so small). Between 27 and 36 percent of rural and urban SMEs respectively added capital. Annual additions to the extremely small capital base ranged from one to three percent, keeping up with per capita increase in GDP growth of 2.6 percent.
- Yes, on balance, rural E-SMEs are far more labor-intensive than urban ones; rural HBEs are not. However, the link between labor intensity and propensity to create job is tenuous. Rural E-SMEs, despite their being more labor-intensive than urban ones, are less likely to add labor (or capital) over their lifetime than urban E-SMEs. Likewise, the SME service sector had the largest workforce expansion, while being the sector with the highest capital intensity. It also is the most capitalized (in terms of both initial and total capital), the largest in size (in terms of the average number of workers per enterprise), and the least likely to suffer from underemployment and demand constraints. So the relationship between current labor intensity and the propensity of enterprises to add labor is ambiguous.

One implication is that to the extent that SME jobs are created through enterprise expansion, they are more likely to be created in urban areas. The majority of SME-generated jobs are mainly generated through start-ups, the study of which was beyond the scope of this research. Nevertheless, lengthening hours and working harder will translate into greater incomes, and eventually, if demand is maintained, to more positions. In either case, incomes increase.

7. CONCLUSIONS

SMEs are traditionally thought of as well poised to respond to increased demand by creating jobs. Study results confirm that SME base employment is very large, they are labor-intensive, and they depend on their localities for labor and other inputs. Furthermore, they have low capital requirements and offer some opportunities for female employment and entrepreneurship.

7.1 Job Creation

However, the potential for rural SMEs to generate employment through expansion must be qualified:

- SMEs are not a homogeneous sector. Throughout the analysis we have shown important distinctions between rural and urban SMEs, HBEs and E-SMEs, as well as between SMEs engaged in services, trade and manufacturing.
- The link between job creation and labor intensity is ambiguous. On balance, rural E-SMEs are far more labor-intensive than urban ones. However, rural HBEs are actually less labor-intensive than their urban counterparts. Furthermore, rural E-SMEs, despite their being more labor-intensive, are less likely to add labor (or capital) over their lifetime than urban E-SMEs. Likewise, the SME service sector had the largest workforce expansion, while paradoxically being the sector with the lowest labor intensity. It also is the most capitalized (in terms of both initial and total capital), the largest in size (in terms of the average number of workers per enterprise), and the least likely to suffer from underemployment and demand constraints.
- One implication is that to the extent that SME jobs are created through enterprise expansion, they are more likely to be created in urban areas. The majority of SME-generated jobs are mainly generated through start-ups, the study of which was beyond the scope of this research. Nevertheless, lengthening hours and working harder will translate into greater incomes, and eventually, if demand is maintained, to more positions. In either case, incomes increase.
- There is reason to suspect that SMEs may be fairly unproductive at present and perhaps not yet ready to swing into high gear. Many SME owners had held previous jobs (62 percent) and of those, 25 percent had once been farmers. Twenty percent run their business concurrently with another job, 64 percent of which are in government. At the same time, few E-SME owners have experience from having worked in another related enterprise. The picture is therefore that SMEs represent a way for poor households to broaden their earnings portfolio and that movement between occupations might be fairly fluid depending on economic conditions.

The results suggest that there will be a lag between the time demand increases and SMEs increase wages and new jobs. This result is consistent with the lag of two to three years between agricultural growth and the employment response noted by Mellor and Gavian (1999) and pertains to the period that the SME sector absorbs its excess capacity and gains access to the capital resources needed to expand.

Comparing enterprises by both location (rural and urban) and sector (manufacturing, services and trade) we can identify certain characteristics associated with SME growth. We have demonstrated that urban E-SMEs and those active in the services sector (compared to their locational or sectoral counterparts) are characterized by:

- Higher capital intensity (lower labor intensity);
- Higher initial capital;
- Higher additional capital; and
- Higher average number of workers by enterprise.

The image of a tiny microenterprise that grows in employment and graduates into higher size categories (small or medium) seems less plausible in light of our findings.

7.2 Policy Implications

The lack of demand is a major constraint facing SMEs in the rural areas of Egypt, including their urban centers. Continuing to provide supply side solutions – though admittedly needed – without expanding the market for their products and services is highly unlikely to generate employment through expansion. Suffering from high underemployment rates – primarily due to the lack of sufficient demand to keep them fully employed – these enterprises will not generate additional employment, except after their capacity has been fully utilized.

Only enterprises free of demand constraints will need supply-side solutions like credit. The services sector is a case in point. It was the least to suffer from underemployment, and the only sector not to list demand as its biggest constraint. Supply side solutions are more useful when there is demand for products in the first place. Currently the Egyptian Government is expanding its various credit schemes targeting SMEs. At the prevailing market conditions, these are most likely going to end up in high default rates (since demand is insufficient to generate revenues to pay off the loans), and high failure rates for SMEs who, hoping to keep their business afloat with credit, will borrow beyond their – and the market's – capacity. Bearing in mind the magnitude of rural SMEs, together with their reliance on the local rural market, the strengthening of that market is crucial not only for their expansion, but also for their survival.

The issue then remains: how to stimulate demand for SME goods and services in rural areas where poverty is greatest? The results indicate that the size of the agricultural sector, even in rural areas, may be fairly small relative to the nonagricultural (e.g., SME) and government sectors. But neither of these latter sources of income is robust. Where does the SME income come from in the first place? As long as there is something outside the SME sector growing, then the SME to SME link gets activated. That growth must come either from government, large businesses or agriculture. As Egypt continues macroeconomic reforms, government employment should diminish sharply, eroding its direct and indirect impact on demand for SME products. The private sector role in the economy must expand. The role of the medium and large enterprises in generating employment will be fairly minor because at present, such businesses are only a small piece of the economy. Thus the growth of agricultural incomes and demand will be critical to filling the void and creating new jobs.

REFERENCES

- Adams, Richard. 2001. **Nonfarm Income, Inequality and Poverty in Rural Egypt and Jordan**. Policy Research Working Paper No. 2572. World Bank.
- _____. 2000. **Nonfarm Income, Inequality and Land in Rural Egypt**. World Bank.
- _____. 1999. "Non-farm Income, Inequality and Land in Rural Egypt" *mimeo*, PRMPO/MNSED, World Bank, Washington, DC.
- Arab Republic of Egypt, Central Authority for Public Mobilization and Statistics (CAPMAS). 2001. **Statistical Yearbook**. June.
- _____. Central Authority for Public Mobilization and Statistics (CAPMAS). 1998. **Labour Force Sample Survey**.
- _____. Central Authority for Public Mobilization and Statistics (CAPMAS). 1996. **General Census of Population, Housing and Establishments: Detailed Results of the Establishments Census, Total for the Republic**.
- _____. Ministry of Economy. 1998. **A Draft National Policy on Small and Medium Enterprise Development in Egypt**. June.
- Awudu, Abdulai (1999), "Investing in the Dairy Sector to Improve Rural Livelihood in India," *InfoAgrar News*. Swiss Agency for Development and Cooperation. January.
- Bagachwa, M. and F. Stewart. 1992. "Rural Industries and Rural Linkages", in Stewart, F., Lall, S. and S. Wangwe (eds) **Alternative Development Strategies in Sub-Saharan Africa**. London: Macmillan. (Cited in Lanjouw and Feder, 2001)
- Collier, Paul, Samir Radwan, and Samuel Wangwe. 1986. **Labour and Poverty in Rural Tanzania**. Oxford: Clarendon Press.
- Datt, Guarev, Dean Jolliffe and Monhar Sharma. 1998. **A Profile of Poverty in Egypt: 1997**. Food Consumption and Nutrition Division Discussion Paper No. 49. International Food Policy Research Institute. Washington, DC. August.
- Datt, Guarev and Jennifer Olmsted. 1998. **Agricultural Wages and Food Prices in Egypt: A Governorate-Level Analysis for 1976-1993**. Food Consumption and Nutrition Division Discussion Paper No. 53. International Food Policy Research Institute. Washington, DC.

- Datt, Guarev and Dean Jolliffe. 1998. **Determinants of Poverty in Egypt: 1997**. International Food Policy Research Institute. Food Security Research Unit of the Agricultural Policy Reform Program in Egypt, in collaboration with the Ministry of Agriculture and Land Reclamation and Ministry of Trade and Supply. *Draft Report of June 12, 1998*.
- Datt, Guarev and Martin Ravallion. 1998. "Farm Productivity and Rural Poverty in India," *Journal of Development Studies*, Vol. 34, No. 4, April pp. 62-85.
- Davies, S, Donald Mead & James Seale. 1992. "Small Manufacturing Enterprises in Egypt," *Economic Development and Cultural Change*. pp. 381 - 409.
- Delgado, Christopher L., Jane Hopkins and Valerie A. Kelly with Peter Hazell, Anna A. McKenna, Peter Gruhn, Behjat Hojjati, Jayashree Sil and Claude Corbois. 1998. **Agricultural Growth Linkages in Sub-Saharan Africa**. International Food Policy Research Institute. Research Report 107. Available on July 24, 2002 at: <http://www.ifpri.org/pubs/abstract/abstr107.htm>.
- De Janvry, Alain and Elizabeth Sadoulet. 1993. "Rural Development in Latin America: Relinking Poverty Reduction to Growth," in Lipton, M. and J. van der Gaag (eds.), **Including the Poor**. World Bank: Washington, DC.
- Dollar, David and Art Kraay. 2001. **Growth is Good for the Poor**. Research Department Group, World Bank. Available on February 16, 2002 at <http://www.worldbank.org/research/growth/pdfiles/GIGFTP3.pdf>.
- Eastwood, Robert and Michael Lipton. 2001. **Pro-poor Growth and Pro-growth Poverty Reduction: What do they mean? What does the evidence mean? What can policy makers do?** Draft manuscript presented at the Asia and Pacific Forum on Poverty: Reforming Policies and Institutions for Poverty Reduction, held at the Asian Development Bank, Manila. February. Available on February 16, 2002 at <http://www.adb.org/Poverty/Forum/pdf/Lipton.pdf>.
- El-Leithy, Heba, Olaa El-Khawaga and Nagwa Riad. 1999. **Poverty Assessment in Egypt: 1991 – 1996**. Cairo University Economic Research Monograph. Economics Department.
- El-Mahdy, Alia and Maged Osman. 2000. **An Assessment of the Effectiveness of Small and Micro-Enterprise Finance in Employment Creation**. Cairo. July.
- El-Mahdy, Alia and Kathy Powell. 1999. **Small Entrepreneurs in Greater Cairo Community**. Social Research Center, Friedrich Ebert Stiftung, 1999.
- El-Meehy, Tamer. (forthcoming) **Small Enterprises in Greater Cairo and the Legal & Regulatory Framework**. Formalization Project, Egyptian Center for Economic Studies & Instituto Libertad y Democracia. USAID. Cairo.
- _____. 2002. **Furniture Industry in Damietta: An Overview**. Collaboration for Community-Level Services Project. USAID, Cairo. March.

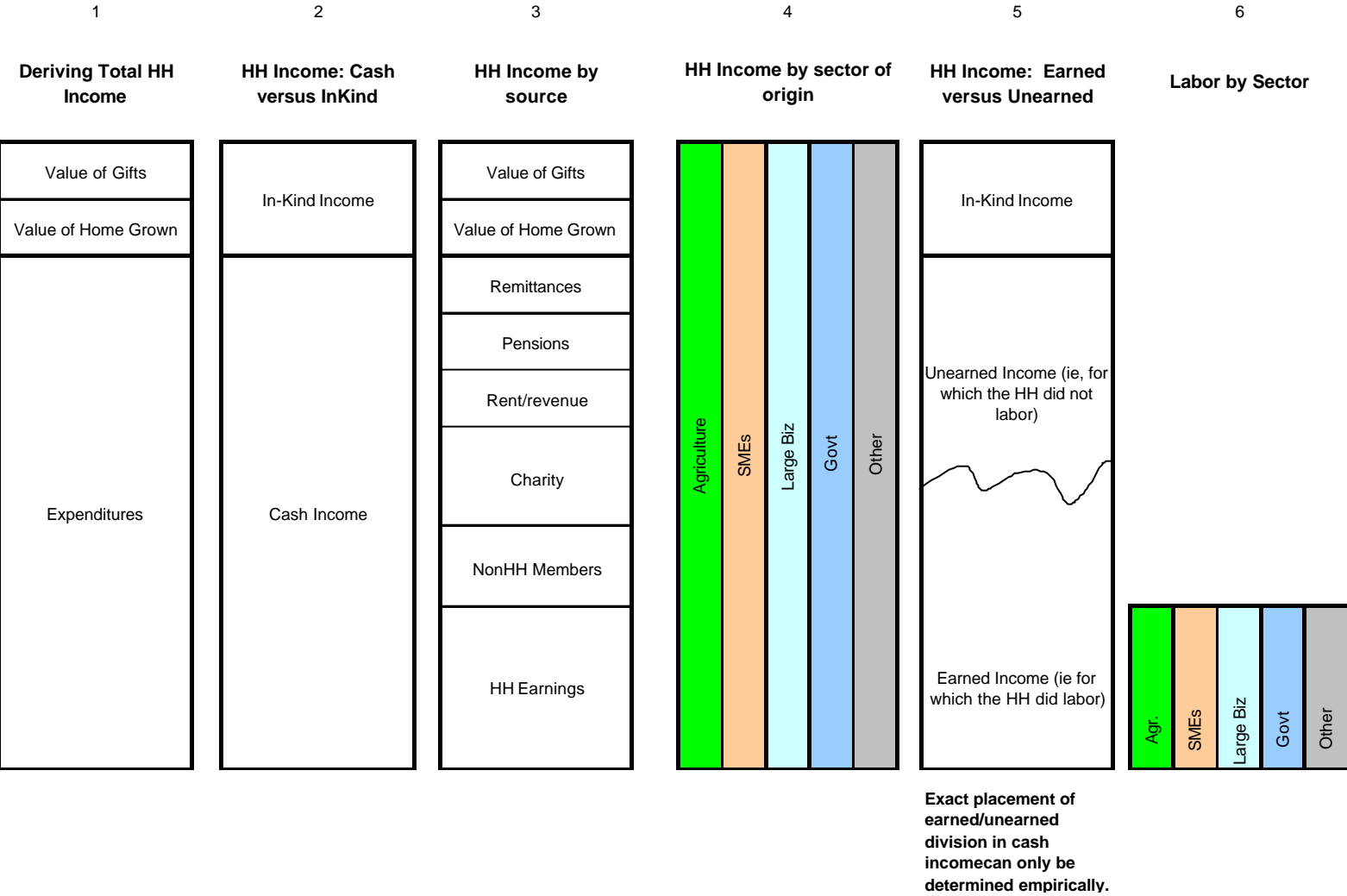
- Environmental Quality International (EQI) & Weidemann Associates, Incorporated (WAI). 2001. **Study on Old Clients**. USAID. December.
- Fawzy, Morsy Aly, Mamadou Sidibe and Osman Salama. 2002. **The Impact of APRP at the Farm Level**. MVE Unit - APRP, Impact Assessment Report No. 28. Abt Associates Inc. Cairo, Egypt. July, 2002.
- Fergany, Nader. 1998a. **Dynamics of Employment Creation and Destruction: Egypt, 1990 – 1995**. Al-Mishkat. January. Cairo.
- _____. 1998b. **Informal Economic Activity and Structural Adjustment in Arab Countries: Application to the Case of Egypt**. Cairo. December.
- Ferreira, F. and P. Lanjouw. 2000. "Poverty and Non-farm Employment in Rural Brazil," *mimeo*, World Bank: Washington, DC. (Cited in Lanjouw and Feder, 2001).
- Friedrich Ebert Stiftung, 2000. **Directory for Governmental and Non-Governmental Organizations Supporting Small and Medium Scale Enterprises in Egypt**
- Hallberg, K. A. (Undated). **Market-Oriented Strategy for Small and Medium-Scale Enterprises**. International Finance Corporation, Discussion Paper No. 40. World Bank. Washington D.C.
- Hart, G. 1989. "The Growth Linkages Controversy: Some Lessons From the Muda Case," cited in Lanjouw, P. and Feder (2001), **Rural Nonfarm Activities and Rural Development from Experience Towards Strategy**. Development Economic Research Group, World Bank.
- Hazell, Peter and Lawrence Haddad. 2000. **CGIAR Research and Poverty Reduction**. International Food Policy Research Institute. Washington.
- International Labour Organization. 1997. "Job Creation and Poverty Alleviation in Egypt: Strategy and Programs," (www.ilo.org/public/english/employment/strat/poldev/papers/1998/le.../indexht). P. 4/21
- Johnston, B. and P. Kilby. 1975. **Agriculture and Structural Transformation**. Oxford University Press. New York (Cited in Adams 2000a).
- Lanjouw, Peter and Gershon Feder. 2001. "Rural Non-Farm Activities and Rural Development: From Experience Towards Strategy," Development Economics Research Group, World Bank. Manuscript found on world wide web on July 26, 2002 at [http://wbln0018.worldbank.org/essd/rdv/vta.nsf/5f265c629632b34085256984006d3654/8cff46647c676d72852569ad007a3820/\\$FILE/rnfe.pdf](http://wbln0018.worldbank.org/essd/rdv/vta.nsf/5f265c629632b34085256984006d3654/8cff46647c676d72852569ad007a3820/$FILE/rnfe.pdf)
- Lanjouw, Jean and Peter Lanjouw. 2000. "Rural Non-farm Employment: Issues and Evidence from Developing Countries," *Journal of Agricultural Economics*.

- Lanjouw, Peter. 2001. "The Rural Non-Agricultural Sector and Poverty in El Salvador," (cited in Lanjouw and Feder, 2001).
- _____. 1999. "Rural Nonagricultural Employment and Poverty in Ecuador," *Economic Development and Cultural Change*, 48 (1), 91-122, October.
- _____. 1998. **Ecuador's Rural Nonfarm Sector as a Route Out of Poverty.** World Bank Policy Research Working Paper 1904. World Bank. Washington, DC.
- Liedholm, Carl and Donald Mead. 1999. "Small Enterprises and Economic Development: The Dynamics of Micro and Small Enterprises," in **Routledge Studies on Development Economics**. London. pp. 102-3.
- Liedholm, Carl and Donald Mead. 1987. **Small Scale Industries in Developing Countries: Empirical Evidence and Policy Implications.** MSU International Development Paper No.9, Michigan State University: Lansing, Michigan.
- Matlon, Peter. 1979. **Income Distribution among Farmers in Northern Nigeria: Empirical Results and Policy Implications.** African Rural Economy Paper No.18. Michigan State University: Lansing, Michigan
- Mead, Donald and Carl Liedholm. 1998. "The Dynamics of Micro and Small Enterprises in Developing Countries," *World Development*, Vol. 26, No. 1, p. 61-74.
- Mellor, John W and Chandrashekhar Ranade. 2002. **The Impact Of Agricultural Growth On Employment In Egypt: A Three-Sector Model.** MVE Unit - APRP, Special Study No. 4 Abt Associates Inc. Cairo, Egypt. July, 2002.
- Mellor, John W. 2001a. **Meeting the OECD Poverty Targets Through Growth and Productivity Increase – The Central Role of Agriculture's Employment Multipliers.** APD Research Report No. 3. Prepared for USAID Bureau for Global Programs, Center for Economic Growth and Agricultural Development, Division of Agriculture and Food Security. Abt Associates Inc. Bethesda, Maryland.
- _____. 2001b. **Rapid Employment Growth and Poverty Reduction: Sectoral Policies in Rwanda.** Prepared for USAID/Rwanda. Abt Associates Inc. Bethesda, Maryland.
- _____. 2000. **Pro-Poor Growth – Strategic Elements for CILSS.** Draft Manuscript September 7.
- _____. 1976. **The New Economics of Growth.** Cornell University Press. Ithaca, NY. (cited in Adams , 2000)
- _____. 1966. **The Economics of Agricultural Development.** Cornell University Press. Ithaca, NY.

- Mellor, John W. and Sarah Gavian. **Determinants of Employment Growth in Egypt: The Dominant Role of Agriculture and the Rural Small-Scale Sector.** MVE Unit - APRP, Impact Assessment Report No. 7. Abt Associates Inc. Cairo, Egypt. December, 1999.
- Mellor, J. and U. Lele. 1972. "Growth Linkages of the New Food Grain Technologies," *Indian Journal of Agricultural Economics* 18, 10-15. (Cited in Adams, 2000)
- Nassar, Heba. 1999. **Socio-economic Conditions of Work in Greater Cairo.** Social Research Center. American University of Cairo.
- Radwan, Samir and Eddy Lee. 1986. **Agrarian Change in Egypt: An Anatomy of Rural Poverty.** Study prepared for the International Labour Office within the framework of the World Employment Programme, International Labour Organization. Croom Helm Ltd. Kent, United Kingdom.
- Ravallion, Martin. 2001. **Growth, Inequality and Poverty: Looking Beyond the Averages.** Policy Research Working Paper 2558. Development and Research Group. World Bank. Washington, DC.
- Reardon, Thomas, Christopher Delgado, and Peter Matlon. 1992. "Determinants and Effects of Income Diversification Amongst Farm Households in Burkina Faso," *Journal of Development Studies* 28 (January): 264- 296.
- Thirtle, Colin, et al. 2001. **The Relationship Between Changes in Agricultural Productivity and the Incidence of Poverty in Developing Countries.** DFID Report No. 7946.
- Timmer, C. Peter. 1997. **How Well Do the Poor Connect to the Growth Process?** CAER II Discussion Paper No. 17. Harvard Institute for International Development (HIID). Cambridge, MA.
- van de Walle, Dominique . 2000. "Is the Emerging Non-Farm Market Economy the Route Out of Poverty in Vietnam?" *Mimeo*, Policy Research Department. World Bank. Washington, DC. (Cited in Adams, 2000)
- White, B. 1991. "Economic Diversification and Agrarian Change in Rural Java, 1900- 1990," in Alexander, P. *et al.* (eds) **In the Shadow of Agriculture: Non-Farm Activities in the Javanese Economy, Past and Present.** Amsterdam: Royal Tropical Institute. (Cited in Lanjouw and Feder, 2001)
- World Bank. 1995. **Arab Republic of Egypt: Economic Policies for Private Sector Development, v. 2.**
- World Bank, 1994. **Private Sector Development in Egypt: The Status and the Challenges.** Report prepared for the Conference "Private Sector Development in Egypt: Investing in the Future." Cairo, October 9-10, 1994.

APPENDICES

Figure 15: Relationship Between Expenditures, Income and Labor by Sector



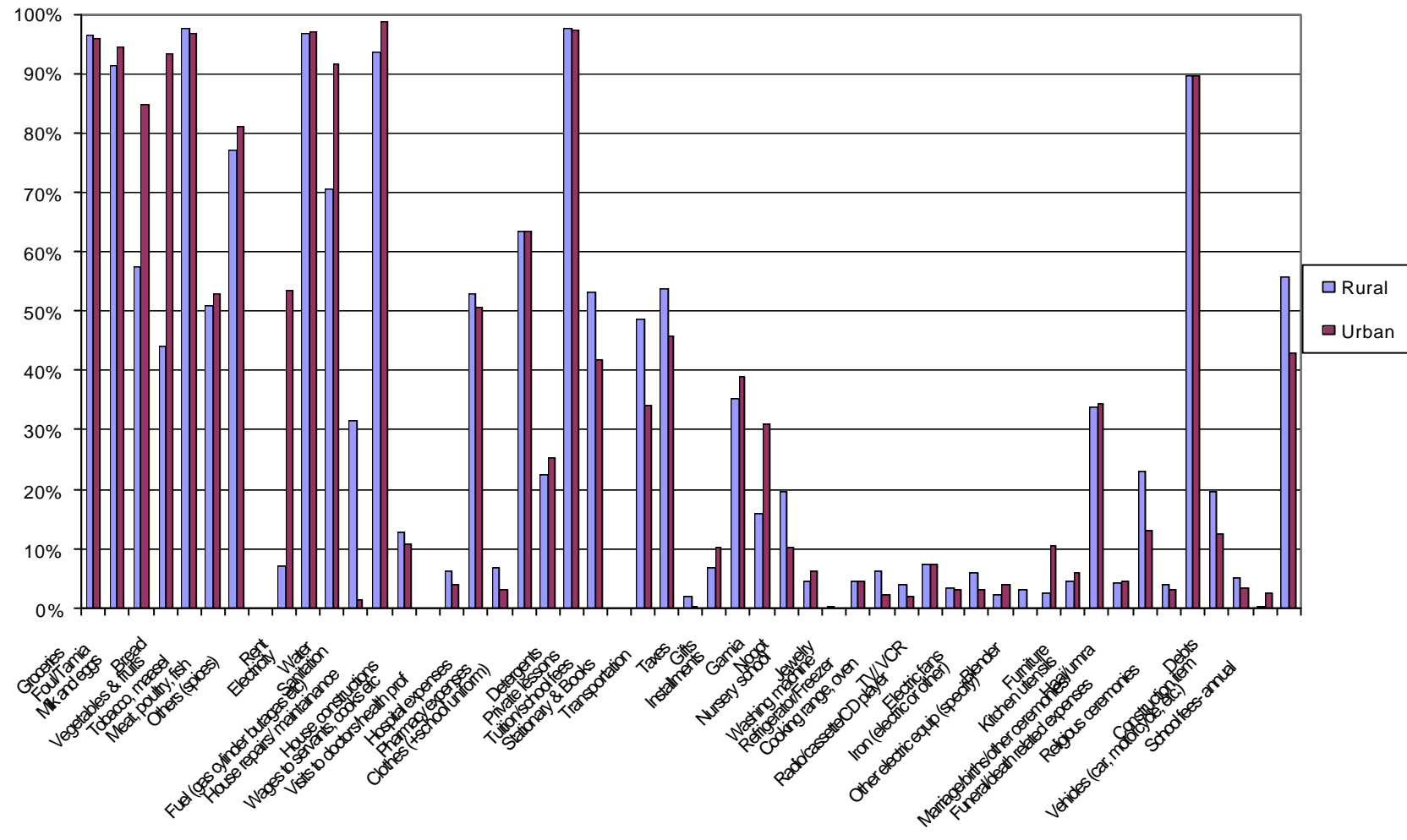
Description of Sample

Governorate	District	Local Unit	Village	Urban or Rural	Sample Size		
					HH Survey	HBE	E-SME
Assiut					200	201	207
	Assiut City			urban	20	20	20
	El Fath	El Fath Urban Area		urban	20	19	20
		Bani Morr	Bani Morr	rural	21	19	29
			El-Ma'sara	rural	15	16	0
			Awlad Badr	rural	5	5	32
			Hamlets (Bani Morr)	rural	5	5	5
	Dayrout						
		Dayrout Urban Area		urban	20	21	20
		Senbo					
			Senbo	rural	42	44	37
			Beblaw	rural	11	11	7
			Nazlet Farag Mahmoud	rural	2	2	3
			Hamlets (Senbo)	rural	5	4	5
		Garf Sarhan		rural	0	0	0
			Garf Sarhan	rural	11	11	14
			Bani Yehia Bahari	rural	12	12	7
			Shalash	rural	6	6	3
			Hamlets (Garf Sarhan)	rural	5	6	5

Governorate	District	Local Unit	Village	Urban or Rural	Sample Size		
					HH Survey	HBE	E-SME
Beheira					200	198	166
	Damanhour						
		Damanhour Urban Area		urban	19	19	20
		Sanhour					
			Sanhour	rural	47	47	29
			Bani Moussa	rural	16	16	6
			Hussein Amr	rural	5	5	4
			Hamlets (Sanhour)	rural	5	6	4
		Zawyet Ghazal					
			Zawyet Ghazal	rural	24	24	3
			Kabeel	rural	13	13	7
			Azab Qabeel	rural	26	25	51
			Hamlets (Zawyet Ghazal)	rural	5	4	4
	Howsh Eissa						
		Howsh Eissa Urban Area		urban	21	20	20
		El-Kardoud					
			El-Kardoud	rural	4	5	5
			Kafr El-Waq	rural	7	7	5
			El-Qarnein	rural	3	3	3
			Hamlets (El-Kardoud)	rural	5	4	5

Governorate	District	Local Unit	Village	Urban or Rural	Sample Size		
					HH Survey	HBE	E-SME
Sharqeya					200	200	276
	Zaqaziq city			urban	20	20	20
	Belbeis						
		Belbeis Urban Area		urban	19	19	19
		Kafr Ayoub Seliman					
			Kayoub Seliman	rural	18	16	32
			El-Tahaweyya	rural	4	2	16
			Kibrahim-El Aydi	rural	4	4	23
			Hamlets (Kafr Ayoub Seliman)	rural	5	5	4
		El-Balshon					
			El-Balashoun	rural	25	25	23
			Mit Gaber	rural	8	9	20
			Mit Me'ala	rural	6	6	3
			Hamlets(El-Balshon)	rural	5	5	5
	Mashtoul el-souq						
		Mashtool el-souq urban area		urban	20	21	19
		Kafr Ibrash					
			Kafr Ebrash	rural	51	53	79
			El-Khosha	rural	6	5	5
			Dahmasha	rural	4	5	3
			Hamlets (Kafr Ebrash)	rural	5	5	5
Total					600	599	649

Items Purchased by Residence



Real Wage Trends in Two Governorates of Egypt (Source: Datt and Olmsted, 1998.)

Figure 2 Real wages and rural food price index: Behera

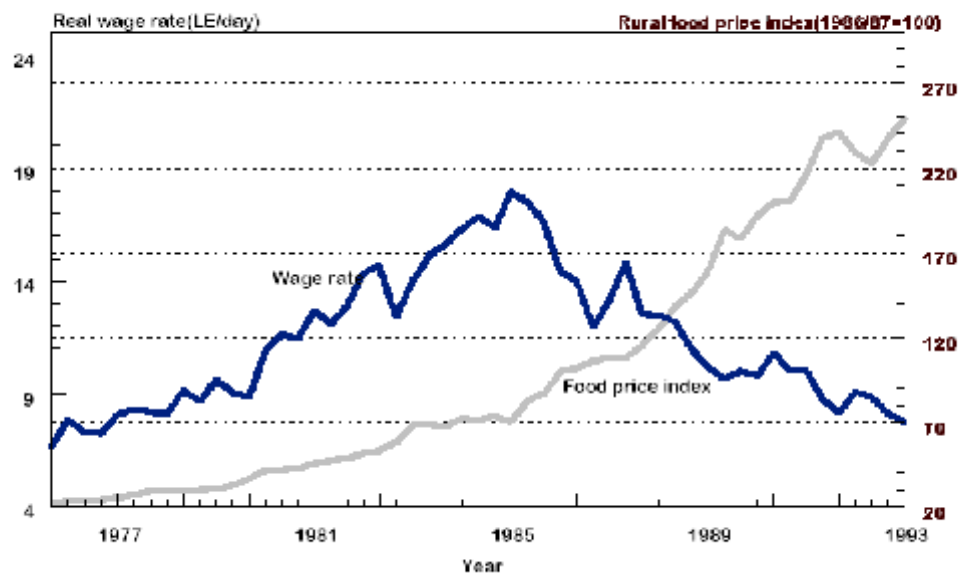


Figure 10 Real wages and rural food price index: Asyout

